#### **EGSA Convention**

**Exploring New Roads** 

#### EGSA News

EGSA Members Honored

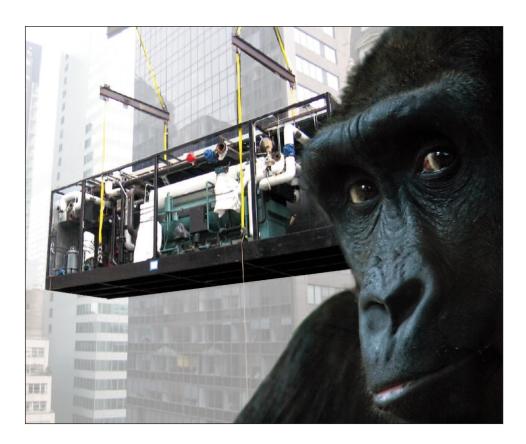
#### **Gen-Set Controls**

Web-Based Remote Monitoring

### Biodiesel

The Possibilities for Power Generation





#### Kong Size Power in NYC!

High atop the asphalt jungle, this CHP Monster rules the roof of an office building in downtown New York City. It's highly efficient 1.6 megawatt custom engineered cogeneration system packaged by Enercon provides peak shaving electric power. The unit's exhaust and water jacket heat generate hot water for the winter perimeter heating and its absorption chiller provides cooling for summer air conditioning.



Two 820 kw customer provided engine-generator units • Weather proof • Sound attenuated Give us a call and let us provide a custom designed solution for your next king sized project!



COMPLETE SYSTEM SOLUTIONS IN CUSTOM SWITCHGEAR • CONTROL SYSTEMS • PACKAGING • POWER GENERATION PRODUCTS • CO-GENERATION

NO. I ALTORFER LANE, E. PEORIA, IL 61611 • E-MAIL: SALES@ENERCON-ENG.COM VISIT OUR ALL NEW WEBSITE AT: WWW.ENERCON-ENG.COM

1.800.218.8831

#### Contents

Volume 43, No. 3 • May/June 2008

#### Columns

Is it time to take the lead?
Education
Codes & Standards
Features
EGSA Explores "New Roads to Opportunity" at Spring Convention
The Possibilities for Biodiesel in Power Generation 18
Web-based Gen-Set Control and Monitoring
Departments
Opportunities Calendar
Index of Advertisers
EGSA News
Industry News
EGSA Membership Application
Job Bank
New EGSA Members



EGSA explores "New Roads" at Spring Convention. Page 14.



On the Cover: Does biodiesel offer possibilities for power generation? Page 18.

# Russelectric custom engineers every power control system to specific customer requirements



"When we upgraded our Russelectric system, we wanted SCADA to monitor and control our old gear as well as the new. A canned package would have meant kluging something together.

Russelectric custom SCADA integrates our entire system... not just the new equipment."

At Russelectric, special requirements or unusual designs are not interruptions of our business... *they are our business.* 

Russelectric specializes in using proven technologies and components in innovative ways to satisfy even the most exotic customer requirements. We'll never compromise on quality, safety, or performance. And, above all, we'll never ask our customers to settle for less than exactly what they want.

Independently owned and operated, Russelectric has only one goal... to take care of our customers.

1-800-225-5250 www.russelectric.com





#### **Conferences**

#### # EGSA 2008 Fall Technical & Marketing Conference

September 7-9, 2008; Atlanta, GA

Speakers will cover business and technical aspects of On-Site Power Generation and current industry trends. For information, visit www.EGSA.org or call (561) 750-5575.

#### # EGSA 2009 Annual Spring Convention

March 15-17, 2009; San Antonio, TX

The Association's Annual Convention of Members. Speakers will cover business and technical aspects of On-Site Power Generation and current industry trends. For additional information, visit www.EGSA.org or call (561) 750-5575.

#### EGSA 2009 Fall Technical & Marketing Conference

September 13-15, 2009; Colorado Springs, CO

Speakers will cover business and technical aspects of On-Site Power Generation and current industry trends. For information, visit www.EGSA.org or call (561) 750-5575.

#### **Schools**

#### EGSA On-Site Power Generation Basic Schools

 Milwaukee, WI
 June 24-26, 2008

 Orlando, FL
 Dec. 3-5, 2008\*

\*To be held concurrently with POWER-GEN International

#### #EGSA On-Site Power Generation Advanced Schools Austin, TX.......Oct. 20-23, 2008

The most complete overview of an On-Site Electric Power Generation System available anywhere today. Now offering Continuing Education Units (CEUs)! For information, visit www.EGSA. org or call (561) 750-5575.

#### **Industry Trade Shows**

#### **POWER-GEN International 2008**

December 2-4, 2008; Orlando, FL

The world's biggest show for power generation, featuring the EGSA On-Site Power Pavilion. For exhibit information, contact EGSA at (561) 750-5575, ext. 205 or e-mail Jalane Kellough at J.Kellough@EGSA.org.

Look for more industry events in our up-to-date calendar on the web at www.EGSA.org. EGSA Members: To list your meetings here, fax your information to (561) 395-8557.



#### Index of Advertisers

ABB Inc
AKSA North America Power Generation
Anna, Inc
ASCO Power Technologies
Avtron Mfg
Baldor
Basler Electric
Chillicothe Metal Co., Inc
ComApLLC24
ComRent International
Davidson Sales
Diesel Gas & Turbine Publications
Enercon Engineering, Inc
Flight Systems
Generator Solutions
GenTech
Gillette Generators
Governors America Corp
Guascor
Hennig
JRS Custom Fabrication, Inc
Mid-America Engine
Miratech
MTS Power Products
Point Eight Power
Power Products, Inc
Power Search, Inc
Pritchard Brown, LLC
Ring Power
Robinson Custom Enclosures
Russelectric, Inc
Silex Innovations
Wabash Power Equipment Co
Wexler CSD Ltd

#### Disclaimer

Powerline magazine is wholly owned and operated by the Electrical Generating Systems Association (EGSA), and includes advertising, press releases, editorials, and other materials and information submitted by third parties, and gathered by EGSA, its publisher, and its agents, and from contributors. This information is passed along by EGSA for the interest of its members only. With regard to products, services, and information mentioned, advertised, or printed, EGSA, its publisher, and its agents, do not investigate the merit, accuracy, or value of the material or information, and make no representations, warranties, or endorsements of any kind, and hereby disclaim any responsibility to parties using such products, services, or information. Readers' activities are at their own risk.

With regard to editorials, letters to the editor, columns, and any other opinions expressed herein, EGSA, its publisher, and its agents, do not ratify, adopt, endorse, or verify such opinions, and hereby state that any opinions, express or implied, are solely those of the speaker. No information is to be regarded as legal advice and reliance thereon and accuracy of statements is hereby disclaimed.

With regard to information contained herein generally, EGSA, its publisher, and its agents, do not guarantee, represent, or verify the accuracy of any information. EGSA, its publisher, and its agents, endeavor to provide accurate information, but cannot guarantee the accuracy and hereby disclaim liability for any reliance on the information contained herein.

EGSA, its publisher, and its agents, make no representations, warranties, or endorsements of any kind of the information, opinions, and advertisements contained herein, do not assert the accuracy of any statements, and all reliance thereon is hereby disclaimed.

#### 2008 EGSA OFFICERS

#### President

Warner Bauer, Kickham Boiler & Engineering, Inc. Vaporphase Div.

#### President Elect

Greg Linton, JRS Custom Fabrications, Inc.

#### Vice President

Ron Hartzel, Eaton Corporation

#### Secretary-Treasurer

John Kelly, Jr., Kelly Generator & Equipment, Inc.

#### Immediate Past President

Gary Kidwell, ASCO Power Technologies, Inc.

#### 2008 EGSA DIRECTORS

Vaughn Beasley, Ring Power Corporation

Dave Dahlstrom, Shindaiwa, Inc.

Charles Habic, Gillette Generators Inc.

Joseph Hafich, Emergency Systems Service Co.

Debra Laurents, Cummins Power Generation

Bobby McDonald, Generator Service Company, Inc.

Randall Nunmaker, Wärtsilä North America, Inc.

Al Prosser, Katolight Corporation

Dennis Roundtree, Onsite Power Inc.

#### **EGSA STAFF**

Jalane Kellough, Executive Director

Donald Ferreira, Dir. Communications & Publications

Lynn B. Grant, CMP, Dir. Conventions & Meetings

George W. Rowley, Director of Education

Liz Bustamante, Membership Manager

Herbert V. Whittall, Technical Advisor

#### SERVICE INFORMATION

FOR SUBSCRIBER ORDERS, CHANGE OF ADDRESS, REPRINTS, AND BACK ISSUES (WHEN AVAILABLE), CONTACT:

Editor, Powerline magazine

1650 S. Dixie Hwy, Suite 500  $\bullet$  Boca Raton, FL 33432

Ph 561/750-5575 • F 561/395-8557

E-mail: e-mail@egsa.org

Powerline is published six times per year on a bimonthly basis. Articles and information submitted for publication should be forwarded to the attention of the Editor at the address above 30 days prior to publication. Technical articles and articles of general interest to the electrical generation industry are actively sought and encouraged. Powerline reserves the right to limit information appearing in its pages to that which, in its sole discretion, will reflect positively on EGSA and the industry which it serves.

Throughout every issue of *Powerline*, trademark names are used. Rather than place a trademark symbol at every single such occurrence, we aver here that we are using the names in an editorial fashion only. EGSA has no intention of infringing on these trademarks.

Electrical Generating Systems Association 1650 S. Dixie Highway, Suite 500 Boca Raton, FL 33432 561/750-5575 • Fax 561/395-8557 e-mail@egsa.org • www.EGSA.org





Warner Bauer 2008 EGSA President

#### Is it Time to Take the Lead?

Have you been to the gasoline pump lately? If you're wincing right now, the answer is probably yes. You're not the only one who's hurting right now with the high price of fuel. Our nation's trucking industry is feeling the pinch, too.

Last month, independent truckers from across the country voiced their concern about the skyrocketing cost of diesel fuel. The Philadelphia Inquirer reported that truckers staged a slowdown on the nation's highways, "pulling their rigs off the roads and holding demonstrations at rest stops to protest surging diesel-fuel prices."

Their action, said the Inquirer, "was intended to pressure the Bush administration into releasing fuel from the Strategic Petroleum Reserve to help lower prices, establishing a national diesel standard, and allow exploration of off-limit areas rich in oil."

According to National Public Radio, diesel fuel is currently selling for an average of \$4 per gallon nationwide—about 20 percent more than the cost of a gallon of gasoline. It's the kind of sticker shock that makes you long for "the good old days" when you could pile the kids into the station wagon and drive cross country for 59 cents a gallon.

I respect what the truckers have to say, but I must admit that I just don't see prices coming down—ever. Oil is a limited resource, and—let's face it—they're not making any more of it. The

law of supply and demand dictates that as long as supply falls, demand (and price) will rise. It's a fixed scenario and one that is bound to become more frustrating for many people who depend on petroleum products. Large trucking firms can pass the costs on to their customers and spread out the impact. But when the customer himself is purchasing the fuel, it becomes an alarming and frustrating matter.

Your customers are probably becoming frustrated, too. How many projects are missing payback goals because of rising diesel fuel prices? How much manufacturer stock is sitting in the warehouse because it's becoming too expensive to operate? Will the rising cost of operating a diesel fuel gen-set have a negative impact on gen-set prices and sales?

We've been discussing alternative fuels for decades, and yet many of us still think of diesel as our first choice among fuels. Perhaps it's time that the On-Site Power Industry took the lead in developing new, sustainable energy solutions. Think of the new markets EGSA members could open up by developing new equipment and retrofitting existing installations. Making the transition away from diesel will require customer time and money. On-Site Power firms who can offer cost-effective, alternative fuel solutions will undoubtedly go the distance and succeed.







George Rowley EGSA Director of Education

#### **Reference Book Call for Authors**

By the time you read this, we will have broad-cast a Call for Authors for the next edition of the EGSA Reference Book. If you did not receive the Call for Authors message and are interested in authoring or co-authoring (or reviewing) a chapter, please contact George Rowley. And very importantly, if you know of someone who has the knowledge and expertise to write about a topic in an authoritative manner, please let us know who that person is and about their area of expertise.

Complete realization of the Reference Book Editorial Committee's plan for the publication is contingent upon identifying and recruiting qualified authors to write the chapters. We will depend on you to help us identify those authors who possess the expertise and experience to make the new edition exceptional.

#### Technician Certification Marketing Plan to Target End-Users

Marketing the Certification Program has been a subject of discussion by the Certification Committee since before the program was launched. A consistent thread throughout these discussions has been the need to make end-users aware of the program and the value of using EGSA-certified technicians. Importantly, at its recent meeting the committee decided that we will begin to develop a marketing plan aimed at end-users. Although a timetable has not been established, you will begin to see a shift in marketing focus in the not-too-distant future.

**Question** #1 – What if an end-user asks you to provide a Certified Tech to service his equipment and none of your techs are Certified?

The Answer – should be obvious: get them Certified!

Question #2 – What do techs in Canada and Trinidad know that techs in Alabama, Arkansas, Delaware, the District of Columbia, Hawaii, Kansas, Maine, Mississippi, Montana, Nebraska, New Hampshire, New Mexico, North Dakota, Oregon, Rhode Island, South Dakota, Vermont, and Wyoming don't know?

**Answer** – The value of the EGSA Technician Certification Program. There are six Certified Technicians in Canada and four in Trinidad, but there are no Certified Technicians in the states listed above.

#### The Demographics: Georgia is the Leader!

Here are how many Certified Techs there are in each of the States:

- 17: Georgia;
- 14: Ohio;
- 13: California;
- 12: Virginia;
- 11: North Carolina;
- 10: Arizona;
- Seven: Michigan and Texas;
- Five: Massachusetts, New Jersey, and Pennsylvania;
- Four: New York;
- Three: Maryland and South Carolina;
- Two: Alaska, Colorado, Connecticut, Florida, Idaho, Indiana, Missouri, Tennessee, Wisconsin, and West Virginia;
- One: Iowa, Illinois, Kentucky, Louisiana, Minnesota, Nevada, Oklahoma, Utah, and Washington.

#### Information and Data Update

As of the end of March, there are 165 certified technicians. Interest in and utilization of the program is increasing and we are looking forward to a very good year. Test Sales - 29 tests were sold in March, an all time high. The total sold in the first 3 months of this year (57) is more than half of the number sold for 12 months last year (103). **Testing** – tests taken in 3 months this year (41) is about half the total for 12 months last year (80). Logo Items - Sales of logo items is robust. We sold a total of 187 logo items YTD compared with 229 for the entire year last year. Test Preparation Materials - Although sales of Study Guides and bundled Study Guide/Reference Books have slowed a bit, we cannot discount the fact that sales of these items have been very strong in the recent past. A total of 498 test prep items have been sold since they became available. 498 sold minus 165 certified techs = 333 people that are preparing to take the test.

Questions or comments about EGSA Education programs should be directed to George Rowley, EGSA Director of Education (*G.Rowley@EGSA.org* or 561/237-5557). ■



## Stand out from the Competition with the EGSA Certified Electrical Generator Systems Technician Logo

You can now wear this patch! It is used only by EGSA Certified Technicians. It sends a clear message that you and your employer are special. It shows you have proven your skill and knowledge by passing a rigorous test and that your employer is committed to excellence and high standards. If you've earned the title "EGSA Certified Electrical Generator Systems Technician"—use this logo with pride!



EGSA Member Item # (Specify)	Non-Member Item # (Specify)	Quantity	Logo Item Description	EGSA Member Price	Non-Member Price	Item Total
□ FSU 093	□ FSU 094		<b>Logo Uniform Patch</b> —These highly detailed uniform patches contain over 15,000 stitches to highlight our copyrighted line drawing genset logo and proclaims, in gold lettering, that the wearer is an "EGSA Certified Electrical Generator Systems Technician."	□ \$3.50	□ \$6.50	
□ FSU 120	□ FSU 121		Baseball Cap—These distinctive EGSA blue caps with white brim stripe, button, and vents feature the EGSA Certified Electrical Generator Systems Technician logo in front. These one-size-fits all caps are made of durable high-quality cotton and feature a flex-strap to adjust the size.	\$21.25	□ \$26.25	
□ FSU 122	□ FSU 123		Self-Adhesive Decal (4"x6")—These heavy-duty adhesive-backed vinyl decals are made to hold up to exposure to the elements. To help resist fading and weathering, the images are printed with UV-resistant ink and we have applied an extra coating to further protect the image from fading and abrasion.	\$10.75	\$15.75	
□ FSU 124	☐ FSU 125		Self-Adhesive Decal (8"×10")	□ \$21	□ \$25	

Only EGSA Certified Technicians are authorized to use Certified Technician Logo Items. Please enter the technician's certificate number so that we can process the order

EGSA Certification Number
Sub Total

Electrical Generator Systems
Technician Certification
Logo Items Order Form

6% sales tax applies to sales of logo items to Michigan Residents ONLY. If your Michigan company is tax exempt, please fax a copy of your tax exempt status or include a copy with this order form when ordering by mail.

MI Residents Add 6% Sales Tax (See Note)

TOTAL DUE

6% Sales Tax (See Note)	
TOTAL DUE	

#### **Payment**

IMPORTANT! FULL PAYMENT MUST ACCOMPANY THIS FORM. Faxed forms must include credit card numbers or they can not be processed.
☐ Check (made payable to Ferris State in U.S. funds)
☐ Purchase Order Number
☐ American Express ☐ VISA ☐ MasterCard ☐ Discover
Credit Card #
Cardholder:
Exp. Date: Security Code/CVV2 Number*:*VISA/MC: the CVV2 is the last 3 digits of the number printed on the back of the card AMEX: the CVV2 is the 4-digit number above the card number on the front of card.
Credit Card Billing Address:
Signature:

#### Shipping

are included in U.S	ng to a physical stree S.A. deliveries. Shippir e the U.S.A, contact	ng outside the U.S.A	
This address is a	☐ Residence	■ Business	☐ Both
Ship to (Name):_			
Company:			····
Address 2:			<del> </del>
City:			<del> </del>
State:		Zip:	
Phone:			<del> </del>
Fmail:			



Mail or Fax this completed form with payment to

#### **Ferris State University**

EGSA Certification Program

1020 Maple Street-Suite 117 • Big Rapids, MI 49307

Toll Free 866-880-7674 • Fax 231-591-5821 • Direct Line 231-591-5822





Herb Whittall EGSA Technical Advisor

#### **EGSA to Write New Standard**

The recent Codes and Standards Committee meeting (held during the EGSA Annual Spring Convention in Albuquerque) gave members the opportunity discuss NFPA 70, 99, 110 and 111 as well as a number of other items. Discussion highlights and updates included the following:

The 2008 edition of NFPA 70 (*The National Electric Code*) has just been published.

- NFPA 99 (Healthcare Facilities), 110 and 111 (Emergency Power Systems) had their Report on Proposals in February and will have the Report on Comments meeting in late September in Chicago.
- The IEEE White Book (Health Care Facilities) was completed and published in December, 2007
- Herb Daugherty has been accepted on ANSI TC 8 (System Aspects of Electrical Energy Supply) but there has been little activity.
- UL 1008A (Medium Voltage Transfer Switches)
  has not been made an official UL Standard,
  but UL is listing switches to UL 1008A.
- UL 231 (Power Outlets), UL 1012 ED.7 (Power Units other than Class II) and UL 1778 (Uninterruptible Power Systems) are under minor review.

Most of the committee meeting was spent reviewing a proposed new EGSA Standard. This new standard is intended to address the lack of a comprehensive standard covering how test equipment meets the seismic and wind requirements of the International Building Code. A very complete standard was written and the committee appointed a sub-committee to address three topics:

- Sound Attenuation Products for Cooling and Combustion Air Handling Equipment;
- · Vibration and Seismic Control devices; and
- · Radiator Mounted Load Banks.

The sub-committee has been charged to deliver these sections to the full committee by July 1, 2008. The entire Standard should be ready for Committee and Board approval in time for the EGSA Fall Conference in Atlanta. If anyone is interested in obtaining a copy of this standard, please email Mike Witkowski at mwitkowski@pritc hardbrown.com and he will email you the six-page document.

UL 2201, Standard for Portable Generator Sets had a meeting of the STP in February in Chi-

cago. The main topic of discussion was Ground Fault Circuit Interruptors (GFCIs). This topic will require a lot of work to arrive at a consensus because UL is trying to write one standard to cover two different applications:

- The builder using a portable generator set to power a building site during construction; a GFCI is needed to ensure the unit will trip if any of the cords powering power tools become cut or damaged and cause a short.
- The homeowner using a gen-set to connect to his home in case of a utility power failure; the needed GFCI will trip unless three-pole transfer switches are used (usually two-pole transfer switches are used) because of the GFCIs already installed in the home.

The problem of course is that the manufacturer and the wholesaler/retailer of the portable gen-set do not know who will be buying and using it. If there were some way to know ahead of time how the gen-set was going to be operated, then GFCIs could be installed—or not—as the application required.

The April, 2008 edition of NFPA News has a TIA with a new table A 5.6 *Pipe, Tube, Fittings and Joints for Natural Gas and Liquefied Petroleum Fuel Applications* to replace the table approved for the 2009 edition of NFPA 54 *National Fuel Gas Code.* Apparently the approved table to be published omitted some acceptable materials. Also the same edition of NFPA News lists 19 errata for NFPA 30-2008 *Flammable and Combustible Liquids Code.* These errata can be found on *www.nfpa.org/codel-ist* 

UL 67 Ed.11 – **Standard for Panel Boards** and a Proposed TIA for NFPA70-**2008National Electric Code** Section 645-17 **Power Distribution Units** are looking to change the limitation of 42 overcurrent devices on a lighting and appliance branch-circuit board. This limit of 42 devices was removed from section 408.36 **Overcurrent Protection** of the 2008 edition of the National Electric Code.

ISO/FDIS 8178-2 Ed 2 Reciprocating internal combustion engines — Exhaust emissions measurement — Part 2 Measurement of gaseous and particulate exhaust emissions under field conditions was approved by 11-0. There were actually 13 eligible voters: Austria, Belgium, China, France, Germany, India, Italy, Japan, Korea, Russian Federation, Switzerland, United Kingdom and the U.S. ■

### Faults Happen

#### How safely and quickly you are up running again is what matters



#### Troubleshoot faults without the need for Arc Flash protection



ABB Emax breakers allow maintenance to troubleshoot faults without the need for Arc Flash PPE. Wireless Bluetooth<sup>®</sup> communication is one of the many features which make ABB Emax breakers the ideal solution for today's requirements of designers, switchboard & switchgear manufacturers, installers, OEMs, and users. This wireless technology

allows customers to remotely set protection functions, monitor measurement functions, and verify the status of the circuit breaker. The Emax low voltage power circuit breakers range from 40A to 5,000A and have redefined size-to-performance ratios for maximum flexibility, including the industry's ONLY UL 1066 200kA fuseless technology. As a global leader in circuit breakers, our field-installable accessories and trip units are available with communications and metering capabilities to meet all major international standards (UL, CSA, IEC and CCC). These features allow Emax products to help improve lean processes in your facility by reducing waste in installation, testing, and troubleshooting.

To learn more about Lean Electrical Control, visit www.lean-electrical-control.com/47 to download your FREE copy of ABB's whitepaper, "10 Steps to Lean Electrical Control".



#### EGSA Members Recognized for Service to the Industry

Several members of the Electrical Generating Systems Association (EGSA) were singled out at the recent EGSA Annual Spring Convention in Albuquerque, NM and recognized for outstanding contributions to EGSA and the entire On-Site Power industry.

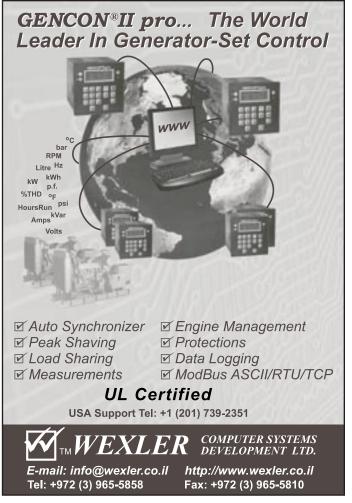
2008 EGSA President Warner Bauer presented Ron Hartzel of Eaton Corporation with the William Timmler Award. The William Timmler Award is given annually to an individual EGSA member for outstanding work in chairing an EGSA committee.

Hartzel has been involved in EGSA for many years and among his contributions to EGSA has been his outstanding service to the Codes and Standards Surveillance Committee and his leadership of the Electronic Media Committee. "Thanks to his eye for detail and his commitment to the



Instructors recognized for service included: Jim Wright, Marathon Electric; Tim Hinde, Woodward Industrial Controls; Dennis Roundtree, Onsite Power Inc.; Terry Gaines, Basler Electric; and Steve Lawrence, Woodward Governor Controls.





#### EGSA News

task at hand," said Bauer, "EGSA can boast that its recently re-launched web site is one of the most authoritative, informative and useful sites on the Internet today." Hartzel has served on the EGSA Board of Directors and is currently EGSA's Vice President.

Mr. Bauer also recognized Dale Slemp of Western Power Group, Inc. with the Leroy H. Carpenter Award. The Leroy H. Carpenter award is given to an individual EGSA member for long and outstanding service to the Association. Mr. Slemp has been involved in EGSA for over 30 years. He received The William Timmler award in 1986 for his service as Membership Chairman. He served on the EGSA Board of Directors in the 1980s, again in the 1990s and most recently when he was elected to the Executive Committee in 2003. Finally, he served as EGSA President in 2006.

Mr. Bauer went on to recognize a select group of On-Site Power School Instructors whose hard work and commitment over the years have helped educate EGSA members and the On-Site Power industry. Recently, the EGSA Board of Directors established an Instructor Appreciation Program for the purpose of recognizing the contributions of instructors—and their employers—who have devoted significant time and effort to the school, and who have taught in the school for at least five years. Five instructors were recognized for their contribution as an EGSA school instructor for at least 5 years. They were:

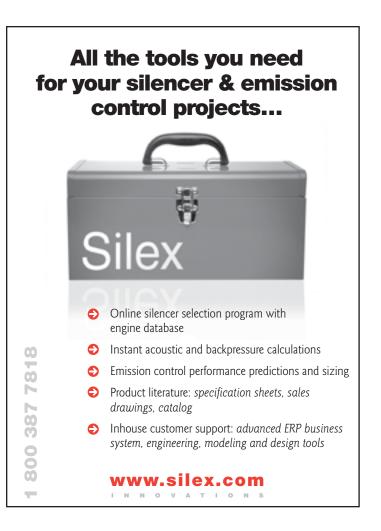
- James Wright of Marathon Electric, 25 years;
- Tim Hinde, Woodward Industrial Controls, 10 years;
- Dennis Roundtree, Onsite Power Inc., 10 years;
- Terry Gaines, Basler Electric, 5 years;
- Steve Lawrence, Woodward Governor Controls, 5 years;
- Dave Alley, ANNA, Inc., 10 years;
- Ole Haaland, ANNA, Inc., 10 years. Mr. Bauer also presented Terry Gaines, Basler Electric, with the James Wright

Educator Award. Named in honor of James Wright, the award is given on an as-needed basis to honor those individuals who have devoted their energies to the betterment of the Association's education programs. Gaines has been an EGSA On-Site Power School instructor for 5 years and now teaches the Automatic Voltage Regulator modules in both the Basic and Advanced Schools and the Generator Protection module in the Advanced School. He consistently is ranked by students attending the schools above 4 on a 5-point scale.

Finally, Mr. Bauer presented 2007 EGSA President Gary Kidwell with a plaque and portrait recognizing "his dedication and service to the Association as EGSA President in 2007," said Bauer.

About 200 On-Site Power professionals attended the Convention. For more information, visit EGSA online at www.egsa.org or call 561/750-5575. ■

# In the Dark About Genset Emissions? CENSET EMISSIONS SOLUTIONS EMISSIONS SOLUTIONS FOR GENSETS NSCR & SCR Catalysts Diesel Particulate Filters Air/Fuel Ratio Controllers SCR Controllers Integrated Silencers Replacement Catalysts & Parts Training & Technical Field Service MIRATECH CORP.COM 800.640.3141(OPTION 2 FOR SALES) INFO@MIRATECHCORP.COM MIRATECH CORPORATION 4224 SOUTH 761" EAST AVENUE TULSA, OKLAHOMA 74145-4712





2008 EGSA President Warner Bauer of Kickham Boiler & Engineering, Inc. Vaporphase Div. (at podium) opened the convention.

The Electrical Generating Systems Association (EGSA) recently held its 2008 Annual Spring Convention at the Hyatt Regency Tamaya Resort & Spa in Santa Ana Pueblo, NM, March 16-18. Convention speakers and their topics were designed to be of interest to virtually every member of the On-Site Power Industry.

In his session "Laughter-There's Nothing Funny About The Way It Sells", Jim Pelley, Laughter Works Seminars, discussed how the creative, appropriate use of humor can boost sales and build solid customer rapport. A former stand-up comedian and contributing writer for the original Saturday Night Live Show, Pelley demonstrated how to use humor to become more creative, more productive and less stressed and offered creative solutions for overcoming "rejection jitters" and gaining access to decision-makers. According to Pelley, positive humor can be an effective way to illustrate the features and benefits of what you sell.

In his presentation "Biodiesel Use and Prospects in Power Generation", Larry Barrett, President, Barrett Consulting Associates, related how biodiesel is being used in power generators and cogenerators owned by utilities and by end-use customers, such as manufacturing plants, universities and military facilities. Barrett discussed the reasons for choosing biodiesel, provided data on biodiesel performance in power generation equipment and outline opportunities for increasing the use of biodiesel for power generation in both utility and end-use customer market segments.

In "Variable Speed Gensets: How Do

They Work and Do They Work?", David R. Brown, Vice President of Sales, Marketing and Business Development, CVT Corp., discussed ways to save fuel through the use of variable speed generators. Brown went on to discuss what applications may be inappropriate for a variable speed generator and those instances in which they may be a "perfect fit."

In "Current Emissions Technologies", Nick Detor, Western Sales Manager, MI-RATECH Corporation, provided an indepth presentation on today's cutting edge emission technology. Detor also reviewed current regulations on stationary units, including SCR design and three-way catalyst technology and gave attendees a glimpse of the radical changes coming in the power generation industry.

In "Reducing Carbon Monoxide (CO) and Particulates (PM) from Internal Combustion Engines", Michael Pope, Marketing Manager and Senior Sales Engineer, Süd-Chemie, Inc., identified the causes and effects of exhaust pollutants from IC engines and discuss the reductions possible with the use of catalysts. "Exhaust from modern generator drive engines is dramatically cleaner than it was 10 years ago," said Pope. "However, Federal and (hundreds of) local agencies are requiring further reductions."

In his presentation "The Opportunity for Combined Heat and Power in the Dry Mill Ethanol Industry", Bruce Hedman, Vice President, Energy and Environmental Analysis, Inc., revealed that energy is the second largest production cost for dry mill ethanol plants—surpassed only by the cost

of the corn itself. As a result combined heat and power (CHP), said Hedman, is increasingly being considered as a cost-effective energy services option by many ethanol plant owners and their financers. Hedman reviewed which CHP technologies are applicable to the dry mill process, outlined the cost and environmental benefits of using CHP and discussed market opportunities for CHP equipment and systems.

In his session "Design Build Concepts", Greg Fischer, DBIA, CPC, Western U.S.VP of Operations, CH2M HILL discussed the design build process and how it is changing the way bids are received and evaluated. Fischer outlined how design build differs from the traditional open bid and evaluated its benefits, including how it benefited end-users/owners. Fischer went on to discuss what design built means for suppliers of on site power generation equipment, electrical controls.

#### **EGSA Manufacturers Forum**

In addition to the lineup of educational sessions, the conference included EGSA's highly successful Manufacturers Forum. The exhibition setting allows EGSA-member manufacturers, attending Distributor/ Dealers and manufacturer representatives to engage in a more formal dialogue. EGSA will hold its 2008 Fall Technical & Marketing Conference September 7-9 in Atlanta, GA. Registration information will be posted on the EGSA web site at www. EGSA.org when it becomes available. ■

Editor's note: Convention presentations are available for download (to EGSA members only) at www.egsa.org.



Attendees networked at several social functions, including the Closing Reception. For more Convention photos, visit www.EGSA.org.



2008 EGSA President Warner Bauer presented 2007 EGSA President Gary Kidwell with a plaque recognizing his dedication and service to the Association as President along with a portrait of Mr. Kidwell and his wife, Darlene, as a token of the Association's esteem.



EGSA President Warner Bauer of Kickham Boiler & Engineering, Inc. Vaporphase Div. (left) presents Todd Sorenson of IEA, Inc. with a \$100 cash raffle prize during the EGSA Spring 2008 Manufacturers Showcase.



EGSA Spring 2008 Manufacturers Showcase.



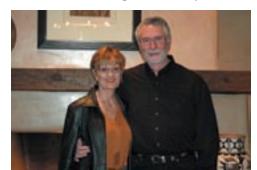




EGSA President Warner Bauer presented a number of awards to EGSA Members for their service. From left: Ron Hartzel, Eaton Corporation, received the William Timmler Award; Dale Slemp, Western Power Group, Inc. received the Leroy H. Carpenter Award; and Terry Gaines, Basler Electric, received the James Wright Educator Award.

Right: EGSA Secretary-Treasurer John Kelly, Jr. (at podium) presented the Treasurer's Report.

Below: EGSA 2007 President Gary Kidwell, ASCO Power Technologies, and his wife Darlene.





# Laughter—There's Nothing Funny About the Way It Sells

by Jim Pelley, Director, Laughter Works Seminars

That's the title of one of the most popular programs that Laughter Works Seminars offers. "But hey," we hear from some audience members, "I'm not in sales." Well, I beg to disagree! These days we're all in sales, from the marketing pro to the operations expert, the distribution manager, the human resource specialist, even the health care professional, the educator and the parent! It's true, even those who may not be exchanging goods or services directly for money are selling just the same.

Among the definitions of "sell" you'll find "to promote, to convince of, to be approved of, to gain acceptance." Now do you see that we are all indeed—to some degree at least—in sales? The art of persuasion, which is the key to successful salesmanship, is also the key to success in much of our daily communication and interaction, regardless of our profession. Persuasion involves seeing both points of view and then making the case that yours can help solve their problems.

Another powerful key to success in sales—and in life—is collaboration. Think about that for a minute. One sales style we've all probably had painful experience with is the high pressure car salesman. "Are you prepared to buy this car TODAY?" Yikes! Talk about an adversarial situation, guaranteed to have your blood pressure rising! Even if you end up with a car you like, you may feel done in by the experience. It's definitely a "me-against-them" feeling.

If you're lucky, you've also had experience with a delightful, caring sales style, too, where the seller is genuinely interested in meeting your needs. Think about a time when a merchant or service provider has first asked you about your needs and then sincerely worked to meet them, maybe suggesting ways to save money or improve the results in the process. That's collaboration—working together for a common goal. It's a mutually beneficial situation where no one ends up feeling taken advantage of or overpowered.

So what about humor as a sales tool? It's fantastic! I'm convinced that the creative, appropriate use of humor can boost sales and build solid customer rapport. One reason humor works is that it effectively

disarms people. Think about it. When we're laughing we have to let go of anger and hostility—our defenses are down. That makes for a relaxed setting conducive to (you guessed it) persuasion and collaboration.

Humor has the power to change people's minds. (Do you want to change your mind or keep the one you have?) Laughter opens our minds to a new world of possibilities—including the value of whatever it is we are selling. Humor can magically present how we outshine the competition. How? Humor is based on seeing things differently, altering our perception. That means divergent thinking, which means creativity. And creativity is behind all meaningful change, growth and discovery. Whew! Did you realize the power and value of a good hearty laugh? It has the ability to take you from "ha-ha" to "ah-ha" in no time flat!

Now that you're sold on the value of selling, here are some of the best gems of sales advice ever gathered in one place... well, they're pretty darn good anyway. If you're not directly involved in sales, consider how they might apply to those situations where you'd like to be more effective, persuasive and collaborative.

#### **Sales Gems**

Assume that all the people you see probably want your product or service and will buy it if they see its benefits and how it can help them. Your challenge is to make sure they see those benefits. If you've had great products or services in the past, then build on your good reputation. Leapfrog over those successful past products to your new offerings. "If you think Pelley's Pickles were good, wait 'til you try the new and improved Pelley's Extra-Puckery Pickles!"

When you cold call, don't try to sell right away. Instead, offer a no-strings-attached, complimentary analysis of their operation. For every ten such phone calls you make, you'll probably schedule one to four appointments. Yup, no matter how great you are, you'll hear "no" more often than "yes." Expect it and you won't be disappointed. "Yahoo! I've been rejected seven times already today and it's not even noon! This next call will be great!"

When making an appointment, use an

alternate choice question: "Would 10:15 or 2:30 be better?" I'm not sure if the parenting manuals got this from the sales manuals or vice versa, but if you're a parent you know it can be very effective! One note of warning: Allan S. Boress, author of The "I Hate Selling" Book, says to avoid such alternative closes at all costs. He thinks they're a terrible cliché. He recommends instead, "What's your calendar look like?" As my favorite third-grader would say,



Humor has the power to change people's minds.
Do you want to change your mind or keep the one you have?

"Whatever." Use any technique that feels natural and works for you. Being consistent with your own personality is essential. But please, be sure that you do close and don't just leave things hanging.

Everyone wants to upgrade if they can do so without too much pain. It's the old value vs. price argument: do you want it good or do you want it cheap? None of us wants to believe that we need or deserve the bottom-of-the-line offering! We select it out of duty or thriftiness. So make it easy

for us to raise our sights a bit. Use comparison to make your point and paint a clear picture, a reduction to the ridiculous. One thousand dollars may be a big chunk of change, but. . . "That's less than the cost of one double-mocha-half-caff per day!"

Remember, the successful salesperson does the things the average salesperson will not do. This axiom can be applied universally if you substitute another noun for salesperson. Try teacher, doctor, administrator, gardener, spouse—just keep in mind what you mean by successful.

Objections are often indicators of interest. Of course, if they object to the fact that you take up any space at all on the planet, it may be time to make a gracious exit and move on. But when a potential customer objects to a specific element of what you are offering, it means they are at least considering it. Now it's up to you to remove their objection by focusing on the positive aspects of your product or service. But don't deny the facts. If you can't really meet their needs for whatever reason, say so, and then refer them to someone you

trust who can. They will appreciate your honesty as will the person you refer them to, and you'll be able to sleep better at night because you didn't over promise.

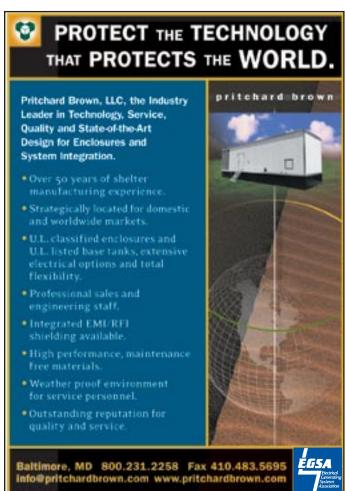
Deputize your best customers. Besides their repeat business, they're also an invaluable source of referrals. You can use meaningful incentives to empower your happy customers to recruit new business for you. Maybe you can't give them big brass Deputy badges, but you can give them a nice shirt or tote with your logo emblazoned on it. (We're talking quality here!) Have personalized Post-it Notes printed and distribute them generously. Most importantly, THANK EVERYONE promptly and profusely. Word-of-mouth will always be the best advertising money can't buy. Every referral you get is a gift, and Mom always said you must send thank you notes. "Right again, Mom!"

A buyer buys when the benefits of buying are clear and completely overwhelming. So be clear. And overwhelm your buyer with your talent, your knowledge, your preparation and with just how much stinkin' fun it is doing business with you!

Above all, have fun selling your product, your services or just your point of view. Positive and appropriate humor will energize you and your prospects. Keep in mind that the sales process itself can and should be fun. And remember, people who laugh, last.

#### **About the Author**

Jim Pelley delivered the Keynote Address at the recent EGSA Annual Spring Convention. Jim is Director of Laughter Works Seminars and was a contributing writer for the original Saturday Night Live Show. As a professional speaker for the past 24 years Jim Pelley has taught people how to put more humor and creativity in their lives to become more creative, more productive, and less stressed! Jim has left them laughing at more than 2,146 organizations worldwide, including: Intel, The Department of Justice, Pepsi, Walt Disney Company, Motorola.





#### The Possibilities for Biodiesel in Power Generation

By Larry B. Barrett, President, Barrett Consulting Associates

Renewable resources in general and biomass fuels in particular are gaining greater currency in energy markets. Biodiesel has been an option from the perspective of Rudolf Diesel for more than a century, especially in transportation. The purpose of this paper is to present the possibilities for biodiesel in power generation.

According to the U.S. Department of Energy, "biodiesel is a diesel replacement fuel that is manufactured from vegetable oils, recycled cooking greases or oils, or animal fats." <sup>1</sup> These oils are renewable, since crops of plants produce oils from sunlight and air, and the plants are produced year after year. Similarly, animal fats come from plant oils and other fats.

Soybeans are the most common source of plant oils for biodiesel. Other sources of vegetable oils include canola, rapeseed, cottonseed, and sunflower seeds. The oil bearing seeds are crushed into an oil and a meal, which can have value as an animal feed. The manufacturing process converts oils and fats into chemicals, called long chain mono alkyl esters, or fatty acid methyl esters, and popularly known as biodiesel. Another by-product is glycerine, which has value as a sugar. The process from improving crop efficiency in the production of vegetable oils to the consumer markets is presented in the figure below.

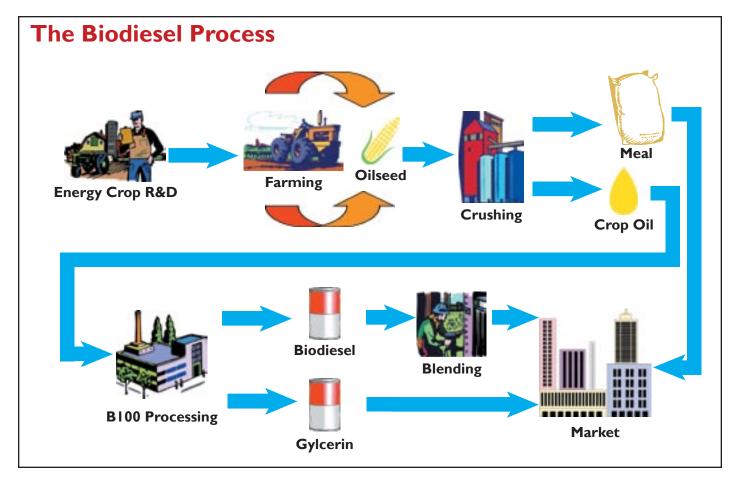
Biodiesel is typically blended in with petrodiesel. A blend of 20% biodiesel with 80% diesel is common and is referred to as B20. Other popular blends are B2 and B5, or 2% and 5% biodiesel respectively. Blending is seldom an issue and may be accomplished by several methods including splash-blending, in-tank blending, and

in-line blending.

Using B100 directly and with no blending of petrodiesel is also acceptable, especially when proper precautions are taken with the diesel engines. It is generally recommended that lower blends be tried before higher blends. Any biodiesel used in the United States for blending should meet ASTM D6751 standards.

#### **Growth of Biodiesel**

Biodiesel production has been growing at exponential rates. Production was about 25 million gallons per year in 2004. It tripled in 2005 and tripled again in 2006. About 450 million gallons per year was produced in 2007. Production is forecast to remain flat in 2008,<sup>2</sup> as prices for biodiesel become less competitive due to dramatically higher costs of oil feed-



# Increased flexibility, control and power ... with the GNS2000 Series Genset Contollers.

The GNS is the first genset control series to fully implement a new, flexible architecture backed with powerful features. The full authority 'black box' genset controller, a controller without digital user interface, can easily be integrated to optimize your costs with any combination of external digital displays, analog gauges, simple indicator lights or can be utilized with no interface at all. For more traditional applications, the GNS family offers versions of the controller with attached displays. To complete the line, GAC offers a variety of annunciators, switches, relays and control modules, I/O packages and remote displays to accessorize your needs. Manufactured in the USA, the GNS is sold and supported by GAC's established worldwide network of representatives and distributors.

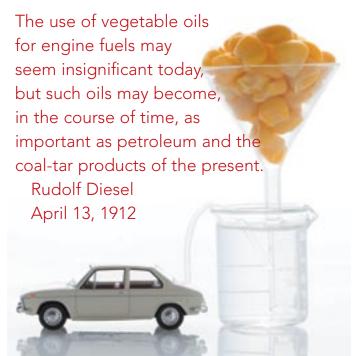
For more information on the next generation of genset controls visit www.gensetcontrols.com.







**GNS2004B Black Box Full Authority Genset Controller** 



stocks compared to already high costs of petrodiesel.

At the same time production capacity is likely to rise due to the large number of projects under construction and planned for construction.<sup>3</sup> The excess production capacity coupled with bigger

plants achieving greater economies of scale is helping moderate further price increases.

Another trend is the increasing productivity of crops of plants that produce vegetable oil. Research is demonstrating how to increase the "gallons per acre" production of vegetable oils. Also some crops plants, such as canola and rapeseed, produce more than twice as much oil per bushel compared to soybeans. Thus, more acreage is being planted in canola and rapeseed.

Biodiesel use has been influenced, of course, by federal, state and local government policies. These include tax incentives, mandates for using renewable energy in general and biofuels in particular, and popular preferences. Biodiesel has become a favorite cause of celebrities in the music and movie industries. Furthermore, politicians across the political spectrum have endorsed greater use of biodiesel.

#### Performance Advantages of Biodiesel

Biodiesel displaces imported and non-renewable domestic petroleum resources. Furthermore, there is a net energy gain, since 3.2 units of fuel energy result from burning biodiesel, compared with one unit of energy involved in its production, processing, and distribution.

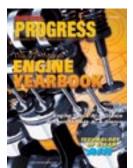
Biodiesel also performs well. There is little power difference as biodiesel produces about 8% less Btu per gallon compared to petrodiesel. Biodiesel presents a significant advantage in lubricity and

...AND ALL OF THE ABOVE

# Your Partner for Reaching the Power Generation Markets

Focusing on providing the latest products, technology and industry news for all the engine-powered power generation markets, **Diesel & Gas Turbine Publications** covers all the markets for electrical power generation from kilowatts to megawatts.

#### KILOWATTS....



DIESEL PROGRESS
NORTH AMERICAN EDITION

#### ...MEGAWATTS...



DIESEL PROGRESS INTERNATIONAL EDITION



DIESEL & GAS TURBINE WORLDWIDE



GLOBAL SOURCING GUIDE

Visit Diesel & Gas Turbine Publications Online at www.dieselpub.com

For information on any of these specialized publications, please contact: Diesel & Gas Turbine Publications • 20855 Watertown Rd., Suite 220 Waukesha, WI 53186-1873 • Tel: 262/754-4100 • Fax: 262/754-4175

a higher cetane number. This may help explain why some users of biodiesel have found equivalent or better fuel use in miles per gallon or kilowatthours per gallon.

Biodiesel has a higher cloud point and a higher pour point. However, users that keep tanks underground, or heated, or indoors during the winter months, report positive experience with biodiesel. In fact, biodiesel has been used with general success at winter resorts in buses, ski grooming equipment, and other diesel equipment.

The shelf life of biodiesel is shorter, especially for B100, at about 6 months. There is growing evidence that B20 may have a shelf live of 8 to 12 months, much closer to petrodiesel.

Biodiesel is biodegradable, so that spills of B100 do not present hazardous waste conditions. And it has a higher flash point, in the event of fire risk. Biodiesel can reduce and in many cases eliminate smoke and soot from diesel engines, even with a modest blend of B5. And biodiesel does not have the offensive odor associated with petrodiesel emissions. The table at right summarizes these performance characteristics.

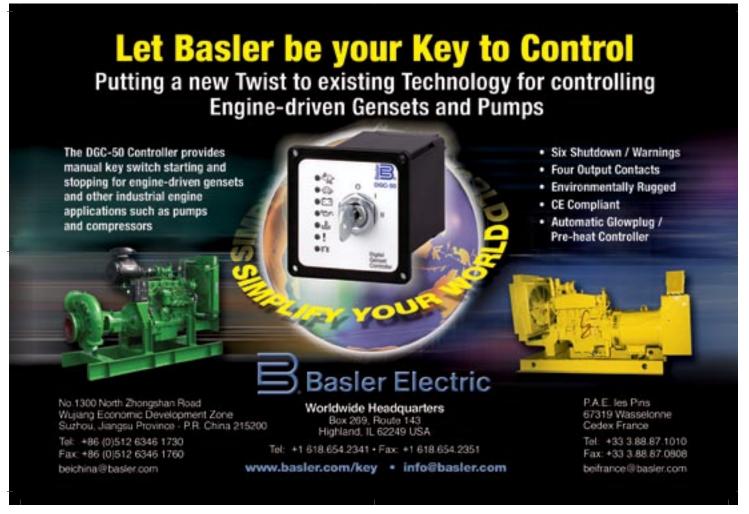
A big advantage is that biodiesel is a "drop-in" fuel. Biodiesel can be used in the existing storage tanks, fuel pumps, fuel lines and diesel engines without modification. No investment in new equipment is required.

When first used in existing equipment, it is important to watch for fuel filter clogging. This is because the solvent characteristics

Performance Comparison Biodiesel posses	Biodiesel	Petrodiesel
"Little" power difference (Btu/g)		
Lubricity (grams)		
Higher flash point (°C)		
Higher cloud point (°C)		
Higher pour point (°C)	15 to 10	35 to -15
Higher cetane number	48-65	40-55
Lower shelf life (months)	6	12

of biodiesel will loosen accumulations of sediment in the equipment. However, once fuel filters are changed more frequently in the initial hours of use with biodiesel, such filters need less frequent changing over the long term. Biodiesel can also be used in turbines.

Damage to engines attributable to biodiesel or any diesel will not be covered by a manufacturer's warranty. The manufacturer's warranty covers material and workmanship of the engine. Manufacturers publish statements about using biodiesel in their engines that generally endorse B5 and lesser mixtures. However, several manufacturers are stating that B20 is acceptable in some of their newest models. If there is an engine failure related to fuel use, it



should be covered by the fuel supplier's general liability insurance. The fact that B20 is being used in tens of thousands of transportation engines seems adequate testimony to its reliability.

Biodiesel and petrodiesel present many of the same issues in terms of oxidation, stability, water accumulation and bacterial growth. Accordingly, the treatments and additives to mitigate these conditions is virtually the same.

#### **Environmental Advantages**

One of the key advantages of biodiesel is in reduced emissions of air pollutants. Particulate matter and hydrocarbon emissions are reduced by over 50% when using B100 as compared to petrodiesel. Some particulate and hydrocarbon emissions from petrodiesel are carcinogenic and these "air toxics" are reduced by 60% to 90% with biodiesel.

Sulfur content is less than 15 parts per million, which allows biodiesel to meet mandates for ultra low sulfur diesel specifications. Some formulations of biodiesel have no sulfur, allowing for a 100% reduction in sulfur emissions compared to petrodiesel. Because of its great lubricity, biodiesel is being used to restore those characteristics lost in the use of ultra low sulfur diesel.

Another environmental benefit is the net reduction in carbon dioxide, one of the greenhouse gases that contribute to climate change. When fossil fuels are burned, carbon dioxide is released to the atmosphere. Biodiesel also contributes carbon dioxide, but plants like soybeans uses the greenhouse gas to grow. There is a net reduction in carbon dioxide of 78% on a life-cycle basis for when using B100 made from soybeans. It is not a 100% reduction, since fuel is used in the production of fertilizers and harvesting and processing of the feedstock for biodiesel. B20 reduces carbon dioxide by a net of about 16%.

The one environmental question mark for biodiesel is nitrogen oxides. In transportation applications, there is a small increase of about 5% in nitrogen oxides for B100 and only about 1% of an increase when using B20. However, for stationary engine applications, such as diesel generators, there is limited evidence that nitrogen oxides decline. The use of B20 has been found to reduce nitrogen oxides by 20% in the case of boilers for home heating systems. Another way to reduce nitrogen oxides is to retard the engines by one to five degrees.

#### **Power Generation Applications**

Biodiesel is gaining attention for power applications. On-site generators and stand-by generators can use biodiesel without any significant change in equipment or operations. Biodiesel has the ability to turn old equipment into "green engines" due to the environmental benefits.

One factor influencing the use of biodiesel is the presence of renewable portfolio standards (RPS). Renewable portfolio

standards have been mandated by utility regulatory commissions and government agencies. The standards require fuel users to achieve specified targets in the use of renewable fuels.

A separate but related trend is the creation of renewable energy credits or RECs. Credits may be earned for using renewable energy such as solar, wind and biofuels. The credits are defined in terms of emissions reductions as compared to fossil fuel alternatives in power generation. In the case of biodiesel, credits are calculated against the emissions of petrodiesel.

Electric utilities are prime prospects for the use of biodiesel. Utilities typically maintain a fleet of generators to meet peak demands on the electric system. These generators may only operate for a few dozen to a few hundred hours each year. In some years, they may not operate at all, if demand for electricity is readily satisfied with base load and cycling units. Peaking units are often diesel generators and therefore good candidates for biodiesel.

In addition to such utility peaking resources, many facilities have standby generators for emergency operation in the event of power outages. Standby generators are found at all manner of critical facilities including military bases, airports, water and wastewater treatment plants, and hospitals, to name a few. In addition they are found at other types of facilities such as manufacturing and refining facilities, high rise buildings, shopping centers, telecom-







186 NW 68th Avenue • Ocala, Florida 34482

Phone: (352) 351-2100 Fax: (352) 351-5881 www.jrscustomfab.com



munication centers and data centers.

Utilities are finding it economical to pay customers owning these facilities to run their standby generators rather than investing in generating capacity to meet peak power needs. Some utilities will even dispatch customer-owned generators into the power grid when wholesale electric prices are high, and then share the proceeds.

#### **Case Studies**

One Midwest utility has been using biodiesel in its peaking units since 2001. It now operates some 51 megawatts (MW) of capacity spread across 21 generating units. The utility started by using B2 and is now using mostly B20. The motivations include meeting mandates for renewable portfolio standards in the state. The utility is also finding it economical to dispatch the units with biodiesel when wholesale prices on the power grid are high enough.

Another utility in the east has recently experimented with different levels of biodiesel in a brand new 1.64 MW generator in cooperation with the manufacturer.

www.comaplic.com

It found the engine worked fine at various mixtures including B2, B5, B20, B50, and B100. They did find that the as the biodiesel concentration increased, the gallons per hour use also increased to maintain the same power output. Part of the experiment was to test the use of catalytic processes to reduce nitrogen oxide emissions, achieving nearly 97% reductions.

A utility in the Rocky Mountains region has been using B20 since the summer of 2007 in its peaking units. The 10 diesel generators are about 40 years old and cumulate to 20 MW. The initial motivations were to meet renewable portfolio standards and earn renewable energy credits. However, the utility operator found dramatic reduction in engine failures, reduced odors and less soot. It attributes the improvement to the improved lubricity in running the old engines. Shelf life of the fuel has not been an issue since the units are run sufficiently often. Cold flow issues have been avoided as the day tanks are indoors and the generators have heaters. Finally, the emissions tests demonstrated compliance with the air pollution restrictions.

Another Midwest utility adopted the use of biodiesel in part to specifically comply with emission requirements. The utility operates 10 units with 17 MW of capacity using B5 and B20 to meet particulate matter emission standards. They are planning to achieve tighter emission standards by migrating to B60 or B70.

Biofuels can be particularly attractive to utilities that are remotely located or with generation units that are distant from fuel sources. A utility in Hawaii has committed to using biodiesel as a way to reduce dependence on foreign oil and to use a sustainable energy resource. While initially the biodiesel will be imported, the long term plan is to grow the fuel crops locally.

There are many other interesting cases using biodiesel. At least one independent power producer is using biodiesel in onsite generators and selling into the Texas power grid. A cogenerator is operating dual fuel equipment that switches between natural gas, petrodiesel and biodiesel depending on the current economics. A fish

USA, CANADA: www.comaplic.com



processor is using fish oil in its diesel engines to meet on-site needs and potentially sell into the power grid. The National Park Service has been using biodiesel in certain sensitive areas and remote areas to meet power needs. The Department of Defense has tested biodiesel in various applications and locations.

#### **Economic Considerations**

Biodiesel benefits from numerous incentives from federal and state governments. The federal government offers production incentives to build and operate biodiesel manufacturing plants. In addition, the federal government offers a tax credit to those that blend biodiesel into petrodiesel. Several states offer incentives such as exemption from certain taxes in the production and sale of biodiesel.

These incentives help make biodiesel more competitive with petrodiesel. Yet, biodiesel still costs slightly more than petrodiesel. In the case of electric utilities, these costs may be passed along to customers through fuel adjustment clauses.

On the other hand, biodiesel can be used without significant investment since virtually no modifications are needed for storage tanks, distribution lines, and engines.

There can be some increased maintenance cost in the early stages of using biodiesel, such as more frequent changes of fuel filters. However, users have found reduced maintenance costs over time and fewer repairs. And most think that fuel use is about the same at the lower mixtures.

A bonus to some users is earning renewable energy credits. These have an economic value and can be sold as a way to offset some of the fuel costs for biodiesel.

In summary, biodiesel presents many benefits in terms of reduced petrodiesel dependence, improved emissions, acceptable performance, and manageable costs. And it smells better, too. It is anticipated that biodiesel will find increased acceptance in power generation among utilities, independent power producers, and those with standby generation.

#### **About the Author**

Larry B. Barrett is President of Barrett Consulting Associates, Inc., Colorado Springs, CO, and was a featured speaker at the 2008 EGSA Annual Spring Convention. He consults on energy efficiency, renewable energy and peak load management. He may be reached at 719-634-4469 and BarrettLarry@comcast.net.

#### **Sources**

- <sup>1</sup> U.S. Department of Energy, "Biodiesel Handling and Use Guidelines," DOE/GO-1020026-2358, September 2006, p. 2.
  - <sup>2</sup> Private conversation, National Biodiesel Board, March 2008.
  - <sup>3</sup> Biodiesel Magazine, December 2007.

(Footnotes)

# POWER ENERGY COMMITMENT

#### Engines and Energy Systems





143 Mallard St., Ste. F St. Rose, LA 70087 Tel: 504-461-3801 Fax: 504-461-3806 guascor@guascor-usa.com www.guascor-usa.com www.guascor.com

#### Web-based Gen-Set Control and Monitoring

By Miles Revell, Key Account Director, ComAp S.r.o.

enerating sets installed around the Jworld are normally there to provide a specific function, namely to provide power when required. The actual role of the gen-set may vary from application to application but the function is always the same. Ensuring that the generator is able to perform this function is becoming more important as energy costs rise and dependence on electrical power for critical equipment increases. Monitoring of the gen-set assets is becoming almost as important as the generator itself. This paper attempts to explore the developments and possibilities utilizing the Internet for the purpose of monitoring the installation.

Remote monitoring of the generator can provide many benefits:

1) Rapid recognition and response to alarm conditions. As soon as an alarm or abnormal condition is detected, the

- monitoring station can prioritize and allocate personnel and parts to deal with it.
- 2) Constant appraisal of maintenance requirements. By monitoring the usage of the system, maintenance requirements can be projected and arranged in an efficient manner, minimizing travel time.
- 3) Performance monitoring. Where the gen-set forms part of a process then its performance can be monitored and steps taken to maximize performance of the system.
- Productivity monitoring. Where the gen-set is involved with production of power or heat, these values can be monitored and remotely optimised as conditions change.
- 5) Asset protection. The monitoring of the remote gen-set allows for supervi-

sion of its operation and even its location.

#### Simple point to point monitoring

This is the lowest form of generator monitoring and traditionally has been achieved utilizing modem technology and telephone lines. The basic system is comprised of a gen-set controller with a suitable data link connection (such as RS232) connected to a modem. The modem connects to the local PSTN (Public Service Telephone Network) and through this is connected to the remote monitoring station, possibly at a central location for the client's service department. At the remote monitoring station a further modem connection to the PSTN is provided along with a PC running suitable software to interrogate the gen-set controller once the telephone link is made.



Sell, Manage and Make Money with GenTech's effortless extended protection plans

- Increase sales through improved product perception, increased customer confidence in your product & increased parts & service volume.
- Improved resale value fully transferrable
- Direct payment to repair facility
- Promotes sale of OEM parts over aftermarket or used parts
- Increased customer loyalty & satisfaction
- · Rapid claims response and payment
- Available for new & pre-owned equipment



43 South Pompano Parkway Suite 255 Pompano Beach, FL 33069 Toll Free: **(800) 986-9935** www.GenTechWarrantyPlus.com





#### Call 800-383-2078 for quotation or product information

P.O. Box 9086 • Daytona Beach, FL 32120 • 386-274-2079 • Fax 386-274-2279 Visit us at our website: www.davidsonsales.com • email: dsc@davidsonsales.com

#### Remote Monitoring

Typical operation would see either automatic calling of the remote monitoring station by the gen-set controller in the event of an alarm, or regular scheduled call-ups initiated by the monitoring station to investigate the health of the gen-set on site and assess its maintenance requirements.

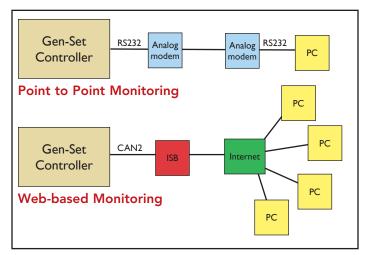
A variation on this is through the use of cellular modem technology which allows connection of the set without needing a dedicated PSTN line connection.

While the system is relatively low technology and has a small implementation cost, the continual call costs mean that it is not really suitable where a large fleet of sets needs monitoring. The point to point nature of the system also means only one set can be easily monitored at a time. As each contact with the remote gen-set involves a phone call, operating costs can mount up.

#### Web-based solutions

By transmitting the relevant information onto the Internet rather than using simply a telephone connection, it is possible to collect and review data from many sites almost simultaneously and at much reduced cost per site contact. This allows the monitoring station to cover a great number of field assets and still provide acceptable reaction times in recognizing fault conditions and mobilizing engineers.

A simple web-based solution would be such that each remote genset is fitted with an Internet connection to allow the transmission of site data. The remote operator simply has to select the IP address of the gen-set and view the data. The system is appealing for a small or



large number of gen-sets and it provides a simple, low-cost solution. There is, however, one more option open to consideration.

#### Web-server solution

With a large fleet of gen-sets, data must be captured and analyzed in order to make the best use of available resources. While point to point communication goes some way to providing this, there is another option available.

Utilizing a web-based system with a central server to collect the information allows vast fleets of gen-sets to be monitored. In addition, their operating histories can be recorded and maintenance and utilization can be plotted.



A typical monitoring system is usually comprised of a gen-set control module with some form of modem communication modules (PSTN/GSM/CDMA/Internet). These will communicate only with a central server system which maintains a database of information on each site. Updates are performed automatically, either based on a scheduled update or event-driven such as an alarm, set start up, etc.

Monitoring the site is done from one or more remote monitoring stations which contact the central server and request the information held there. Effectively, there are two separate systems running: one gathering the data and the other presenting it to the remote monitoring station.

The central server is normally a shared service so that many different clients can use the same off-site server to collect information about their gen-sets. The remote monitoring sites can only access data for their sets using the correct passwords, etc.

Software on the remote monitoring PC's can be tailored to provide exactly the type of information relevant to the activities of the client and his monitored fleet.

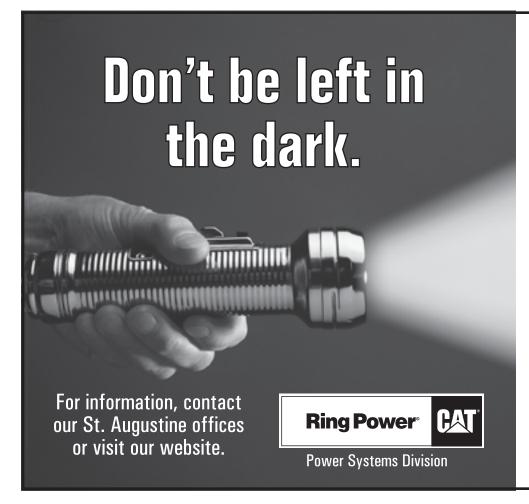
#### Who Uses Remote Monitoring?

Case Study: SDP Energy offers a line of CHP Generators for biogas (110 kW-360 kW) and natural gas (150 kW and 250 kW) applications. "We manufacture cogeneration equipment and have a full-time service division for maintaining equipment we sell, own and operate," said Sean DeFrank, of Stowell Distributed Power LLC (SDP Energy).

SDP Energy currently has a number of sites using online, remote monitoring. "Just a few of the sites we have under contract include a hospital in Vallejo, CA with three 250 kW units, Mission Plastics Inc. in Ontario, CA on a three-unit 1125 kW plant, and TRM Manufacturing Inc. in Corona, CA has four 375 kW units. SDP Energy also owns and operates a number of 80 to 250 kW sites installed in Bally's Fitness Centers in California, all operated, monitored and maintained using Internet based controls," said DeFrank.

Case Study: Stephen Gibson of Aegis Energy Services said his firm, "has always had the need to communicate with our cogeneration systems. These communications are crucial to our operation," said Gibson, "because we have units spread from New York City to downtown Boston. Initially our communications were through a dial-up connection that was consistently slow and at specific sites very unreliable. In addition, because of the location of our sites, our costs for long-distance phone calls were extremely high. With the modem setup we had, the unit was constantly warning and calling us which, in turn, ran up our customers' phone bills."

To solve the problem, Aegis opted to move to network-based communications and web monitoring software. "With this software we are able to get a status report of every unit on the network at a single glance," said Gibson. "We now receive email alarm notification to as many addresses as we desire for each site."



Ring Power sells and rents a variety of Caterpillar® generators and other specialty power generation equipment to keep you up and running, no matter what!

- **GENERATORS** (up to 16 mW)
- LOADBANKS (up to 5000 kW)
- ELECTRIC AIR COMPRESSORS
- ELECTRIC CHILLERS
- **UPS** (uninterrupted power supply)
- FUEL SYSTEMS
- FINANCIAL SOLUTIONS BY CAT POWER FINANCING

904-493-7065 www.ringpower.com

#### Remote Monitoring

A fully implemented system could provide a simple Web based solution for operators of different levels. A web-based overview could be obtained from any PC anywhere in the world with nothing more than the correct URL and a password—no special software would be required; the web page is provided by the web server. More advanced users can access logs, histories and trends, run an analysis and make changes—again from any PC in the world if needed.

For example:

- A service company can offer fleet monitoring to its clients and would look at usage and time data, when scheduling maintenance.
- A utility company running some form of energy reclamation from bio fuel would monitor the utilization and capital creation of its fleet of sets when in parallel with the grid.
- A rental company would monitor usage and schedule maintenance based on the date collected. Asset security

would be enhanced by using Geofencing and tracking.

The flexibility of presenting the relevant data and the shared nature of the central server result in low operating costs for the client. The web-server solution is extremely capable of meeting changing client needs and evolving with them.

#### Conclusion

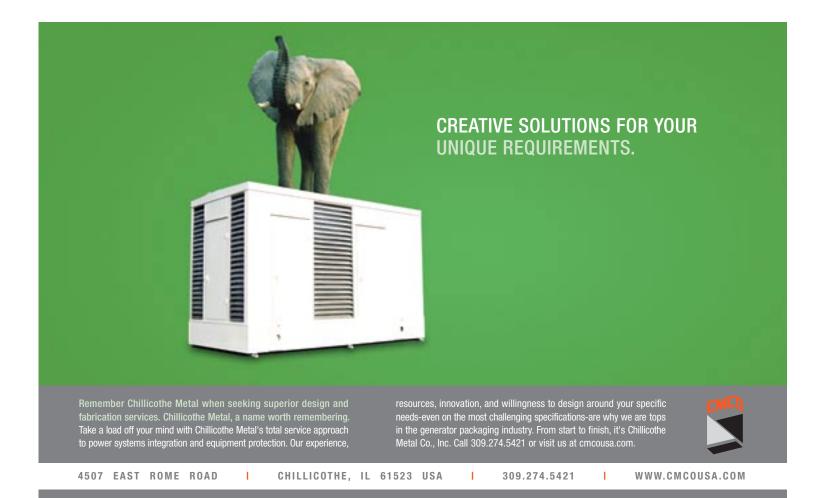
As generator performance in the face of rising energy costs continues to be an issue, increased demand for up to date information of on the generator performance will always be there. Utilizing web technology and the architecture of a central server means that a robust, cost effective solution is possible for any number of generators, giving a structured solution tailored to individual client needs.

#### **Acknowledgements**

Magnum Power Products, SDP Energy, Aegis Energy Services

#### **About the Author**

Miles Revell was originally educated at Hull University, England as part of an engineering apprenticeship awarded by genset company Dale Electric Ltd, England. Miles trained in both the Gen-set and Static power divisions of the company. Having spent the last twelve years focussed on the development and sales of gen-set control, Miles is currently employed by Czechbased company ComAp S.r.o. in this role. ComAp has local offices in Roscoe, Il. and a number of other locations around the globe. Miles can be reached for comments at Miles.revell@comap.cz







### With a Baldor Generator, You're in Business

When you least expect it, the power goes out and leaves you wondering how you're going to stay in business. Now is the time to do something about it before the power goes out again.

Baldor offers an extensive line of automatic emergency standby generators to power your business, large or small.



Baldor automatic emergency generators provide clean power (natural gas or LP gas) when utility power is not available. When combined with an automatic transfer switch (ATS), these generators are the ideal protection against rolling blackouts or complete power outages.

Baldor Generators are designed and built to the highest standards. Count on them to protect you and your most valuable assets, every time.

The next time the power goes out, your competitors will be in the dark while Baldor Generators keep your business up and running.

No power? No problem with a Baldor Generator!



Unmatched Quality. Superior Reliability.

www.baldor.com www.BaldorProSPEC.com

©2004 Baldor Electric Company



# Get an On-Site Power Education. Get CEUs. Get Satisfaction.

Whether you are a newcomer to the On-Site Power Generation Industry or a veteran already working with power generation technology, EGSA's On-Site Power Generation Schools offer you comprehensive information you won't find anywhere else.

While newcomers receive an outstanding introduction to On-Site Power Generation Systems, veterans tell us that our schools provide a great and very meaningful review of critical material. Everybody benefits by getting the most up-to-date information available that is presented by seasoned professionals from some of the biggest companies in the industry.

From voltage regulators to transfer switches to sizing and service, we cover it all in a three-day event. And every student receives a copy of EGSA's 597-page *On-Site Power Generation Reference Book* (a \$225 value) and extensive handout materials.

What's more, you can extend your learning with two extra days of optional sessions that cover prime mover fundamentals, basic electricity, troubleshooting, specifications and bid documents and multiple generator configurations.

With our Continuing Education Unit program, you can earn up to 3.1 CEUs. By earning CEUs you can not only take pride in your accomplishments and knowledge, our CEUs might give you an advantage during your next performance review and your employer will know that the investment in your training has been money well spent. Plus, CEUs may help maintain licenses and professional society membership. When you register for the school, be sure to sign up to take the Continuing Education tests.

For complete information on EGSA's On-Site Power Schools—including a schedule and registration materials—and full details on our Continuing Education program, visit us online at www.EGSA. org.

#### **Electrical Generating Systems Association**

1650 South Dixie Highway, Suite 500
Boca Raton, FL 33432
Email us at e-mail@egsa.org
Visit us online at www.EGSA.org



#### **Enercon Engineering Announces Senior Management Changes**

Enercon Engineering, a leading provider of power generation solutions, has announced changes within its senior management group. Lawrence Tangel, Enercon's Vice President and General Manager has been named the company's new Chief Executive Officer, replacing Edward Tangel who will now serve as Chairman of the Board. Edward Tangel founded Enercon Engineering in 1975.

G. Jack Desatnick has been appointed as Enercon Engineering's Chief Operating Officer. Mr. Desatnick has served as Enercon's Chief Financial Officer, and will continue with this responsibility in addition to his new post as Chief Operating Officer. Mr. Desatnick has over 27 years of experience in Senior Management in Operations and Finance.

Headquartered in East Peoria, IL, Enercon Engineering provides complete power generation solutions. For more information, visit www.enercon-eng.com.

#### MIRATECH Corporation Expands Sales Division By 25%

MIRATECH Corporation, a leading provider of emission solutions for stationary, reciprocating industrial engines, has announced it has added three new positions within their corporate offices, located in Tulsa, OK and Houston, TX. Autumn Janét, a current employee of MIRATECH, was promoted to Sales Administrator and new members of the MIRATECH team are David Bonner, Project Manager, and Kent Stiles, Gas Compression Sales Manager.

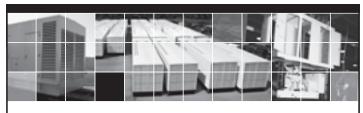
Autumn Janét has been employed by MIRATECH since 2005, assisting with accounting and production department projects. Autumn's new post as Sales Administrator provides support to sales and marketing staff as well as assisting with MIRATECH service and training programs.

As Project Manager, David Bonner provides oversight and direction to internal departments related to all major customer projects, ensuring that customer expectations are defined and achieved. Bonner



will also manage the company's project database and customer information and act as a liaison between customers and Training/Technical Services.

Continued on next page



## Our best work begins by thinking outside the box.



#### Our best ideas go inside.

At Robinson Custom Enclosures our state of the art design begins by thinking outside the box. We custom design each enclosure package to exceed the customers need in the most cost effective way possible.

WHERE CUSTOM IS STANDARD



1740 Eisenhower Drive | P.O. Box 5905 De Pere, WI 54115-5905 920-490-3250 | Fax 920-617-3308 | www.robinsonenclosures.com

#### **Solar Taurus 60**

#### 5.2 MW ● Mobile Gen Sets FOR SALE



- · Solar Maintained Low Time
- · 13 Units (Gen 1) & (Gen 2)
- · 8 Natural Gas 5 Dual Fuel
- · Low Nox 25 ppm
- · Complete Packages
- Mobile PCR U.G. Switchgear
- · 60 Hz 13.8 kV
- 50 Hz Conversion Available

#### Mid America Engine, Inc.

662-895-8444 · Fax: 662-895-8228

Keith: keith@maegen.com
Art: art@maegen.com

#### Industry News

Kent Stiles will use his leadership experience to direct and manage the company's Gas Compression product sales, for staff development and to enhance rapport and training with outside representatives and distributors. Prior to joining MIRATECH, Stiles served as Global Business Development Manager and Executive Consultant for a Gas Compression corporation, directing the global business activities for the aftermarket equipment division and leading his group to increased profits of 25% annually.

MIRATECH Corporation provides engine emissions solutions to its customers in Power Generation, Gas Compression, Locomotive, and Marine markets. For more information, visit www.miratechcorp.com

#### Foley, Inc. Announces Promotions

Mike Kubas, Vice President Foley Power Systems, has announced the promotions of Tom Domotorffy to Power Systems Product Support Sales Manager, Brian Vigilante to Power Systems Product Support Sales Representative, and Danielle Savage to Power Systems Electric Power Sales Representative.

Domotorffy joined Foley in 2005, bringing with him seven years of technical experience in sales and management. He began his career at Foley as a Product Support Sales Representative in the Power Systems Division, where he was responsible for the sale of maintenance agreements, replacement parts and service repairs for electric power, marine and industrial engine applications.

As the Product Support Sales Manager for the Power Systems division, Domotorffy will be responsible for planning, managing and growing the Power Systems Parts and Service sales business for the company.

Prior to joining Foley, Vigilante worked as Sales and Service Manager for Califon Rental in Califon, NJ and as a sales consultant for Sonic Racing in Easton, PA. In his new role as a Power Systems Outside Sales Representative, Vigilante will be responsible for the sale of the Power Systems

Division's parts and service offering across the marine, industrial and electric power generation markets to both existing and new customers.

Savage spent five years gaining experience in a variety of fields, including investment planning sales, lift truck sales, and warehouse layout and design, prior to joining Foley in 2005. During her time at Foley, she has been an On Highway Engine Account Manager, responsible for new vehicle engine and product support sales.

As a Power Systems Electric Power Sales Representative, Savage will be responsible for raising customer awareness with consulting engineers and direct sales to electrical contractors and end users for generator sets 300 kW and below.

Foley, Incorporated is the Caterpillar Dealer in North Jersey, Staten Island, and Bermuda. For more information, visit www. foleyinc.com.

#### Providing Search & Placement Services to the Power Generation Industry

Immediate Openings throughout the U.S. — Call for Confidential Details and Locations!

#### SALES

Manufacturers

Distributor/Dealers

- Sales Managers
- Sales Reps

#### **SERVICE**

Service Managers

Field Service

- Electrical
- Mechanical

#### **ENGINEERING**

Project Managers

**Project Engineers** 

- Electrical
- Mechanical

#### SUPPORT

Application Engineers

- Switchgear & Controls
- Stand-by/Prime Power
- Distributed Generation

#### \$\$ REFERRAL FEES PAID \$\$ CALLTODAY!!



Power Search, Inc.

10 Bricketts Mill Road • Hampstead, NH 03841 (603) 329-1144 • Fax (603) 329-4796 E-mail: ed@powersearchinc.com

"The Power Generation Specialists"





# Application for Membership ELECTRICAL GENERATING SYSTEMS ASSOCIATION

1650 South Dixie Highway, Suite 500, Boca Raton, FL 33432 • (561) 750-5575 • FAX (561) 395-8557

E-Mail: e-mail@egsa.org • World Wide Web: www.egsa.org

EGSA's mission is to bring together representatives of the various segments of the On-Site Power Industry, to learn, share ideas and experiences, advance the science of On-Site Power generation, improve performance and profitability of members, and the quality of service to power users.

<b>1.</b> d	Contact Information	ease	typ	e or print all information in upper and lower case (NOT ALL CAPS!)
Compa	any_			
Addres	s			
City		Stat	e/Pr	ovince
Zip/Po	stal Code	Cοι	ıntry	
Phone		AX		
Official	Representative	Γitle		
Repres	entative's E-Mail	Cor	npar	ny's Web Address
How d	id you hear about EGSA? 🛭 Web site 📮 <i>Powerline</i> magazine 👊 Coll	eag	gue	□ POWER-GEN □ Other
Why a	re you joining EGSA? 🛘 Certification Program 🗘 CEU Program 🗘 F	ow	er S	chools 🗖 Buyers Guide Listing 🗖 Other
<b>2.</b> N	Member Classification Read the Membership classification	s b	elov	v and check the box that describes your firm's classification.
	L MEMBERSHIP			
☐ MF	Manufacturer Membership			SOCIATE REGULAR MEMBERSHIP
	Any individual, sole proprietor, partnership or corporation seeking membership must apply for a Full Membership as a manufacturer if they meet one or more of the following criteria:		AA	<b>Trade Publication Membership</b> Any trade publication dealing with the electrical generating systems industry or its suppliers may apply for Associate Membership—Trade Publications.
	<ol> <li>They manufacture prime movers for power generation.</li> <li>They manufacture generators or other power conversion devices producing electricity.</li> <li>They manufacture switchgear or electrical control devices.</li> </ol>		AB	<b>Trade Association Membership</b> Any trade association made up of individual or company members sharing a common interest in the electrical generating systems industry may apply for Associate Membership—Allied Associations.
	<ul> <li>4. They manufacture or assemble generator sets, UPS systems, solar power, hydropower, geothermal, or any other power production or conversion system including related components or accessories for national or regional distribution.</li> <li>5. They are a wholly owned subsidiary of a firm which qualifies under rule one through four.</li> </ul>		AC	Engineer Membership  Any consulting or specifying engineer may apply for Associate Membership—Engineer. Membership may either be held in the employer's name or individual's name under this classification. Individuals whose employer qualify as a Full Member, as described in the Full Membership section, do not qualify for this category.
			AD	End-User Membership
□ DD	Distributor/Dealer Membership Any individual, sole proprietor, partnership or corporation actively engaged as a distributor or dealer for products listed under Manufacturer Membership may apply for Full Membership as a Distributor/Dealer. If an organization qualifies under Manufacturer Membership, it is not qualified under this section.  Contractor/Integrator Membership			Any individual employee of a company who owns or operates electrical generating equipment and/or related switchgear or components, whose responsibility to his employer includes planning, design, installation, supervision, or service of such equipment may apply for Associate Membership—User. Membership may either be held in the employer's name or individual's name under this classification. Individuals whose employer qualify as a Full Member, as described in the
	Any individual, sole proprietor, partnership or corporation actively engaged as a Contractor or Equipment Integrator of products listed under Manufacturer Membership, not brand by brand, geographic territory or contractually obligated as a Distributor/Dealer of a specific product. These firms typically purchase products from a Distributor/Dealer, Manufacturer or Retailer, adding value through installation, product knowledge, relationships, unique services, etc., and then re-sell the resulting product to an end-user.	<u> </u>	AE	Full Membership section, do not qualify for this category.  Service Membership  Any individual, organization or academic institution that offers services such as research, testing or repair to the electrical generating systems industry may apply for Associate Membership—Services. Membership may either be held in the individual's name or the organization's name under this classification. Individual companies whose employer or parent organization qualifies as a Full Member, as described in the Full Membership section, do not qualify for this category.
□ MR	Any individual, sole proprietor, partnership or corporation actively engaged in the representation of products listed under Manufacturer Membership may apply for Full Membership as a Manufacturer's Representative. If an organization qualifies		AG	Educational Institution Membership Any postsecondary vocational-technical school or college offering on-site power generation-related instruction may apply for Associate Membership-Education Institution.
□ EM	under Manufacturer Membership, it is not qualified under this section.  Energy Management Company Membership  Any individual, sole proprietor, partnership or corporation engaged in energy management, including Energy Service Companies (ESCOs), Independent Power		AR	<b>Retiree Membership</b> Any individual who retires from a member company may apply for Associate Membership—Retired. This classification does not apply to any individual who is employed more than 20 hours per week.
	Producers (IPPs), Integrators, Aggregators, and other similar enterprises may apply for Full Membership as an Energy Management Company.		AF	<b>Student Membership</b> Any individual currently enrolled at an academic institution may apply for Associate Membership—Student.
	Associate Full Membership (mark appropriate category at right)] Any individual, sole proprietor, academic institution, student, partnership or corporation meeting the requirements of Associate Regular Membership may apply for Full Membership at their option to enjoy the privileges of Full Membership, including the rights to vote and to serve on EGSA's Board of Directors. Initiation fees and annual dues will be assessed at the existing non-manufacturers' Full Member rates.			

<b>Dues Schedule</b> (Use for			
	Annual Dues		TOTAL
Manufacturer	\$825	\$200	\$1025
	mpanies \$825		
	\$285		
	\$285		
Manufacturer's Rep	\$285	\$100	\$385
Regular Associate Member	er\$200	\$100	\$300
	\$285		
	\$90		
Student Member	Complimentary	\$0	\$0
nrough December 31. Due:	DUES PAYMENT MUST BE RECEIVED WITS payments that extend beyond the first RECEIVED WITH APPLICATION.  S (Please fill in the appropriate TOTAL		the second year's dues.
mount from the above du	es schedule.)	U.S. Money Order, or American	Express)
	Membership Dues \$		Amount \$
	pership Plaque (optional)** \$39.95*		
On-Site Power	Reference Book (optional)** \$125.00**	☐ Mastercard ☐ Visa	American Express
Florida Residents: Add	6.5% Sales Tax to ** items \$	Card #	Exp. Date
Continental IIS Residents add &	5 shipping/handing to**items. \$		·
Ion Continental US Residents si			
leadquarters for shipping charg		Print Name:	
icaaqaarters for simpping charg			
5. Products/Services	Please describe the nature of your business (. nanufacturers you represent and/or distribute :e:		
• Products/Services istributor, please indicate for r	nanufacturers you represent and/or distribute		
D. Products/Services istributor, please indicate for rour anticipated graduation dat  o you buy AND sell equipr  available Codes:	nanufacturers you represent and/or distribute se:  ment? □ Yes □ No Do you manufac	ture packaged equipment?	d location of your school, your majo
D. Products/Services istributor, please indicate for rour anticipated graduation date our anticipated graduation date our auticipated graduation date out auticipated graduation date out auticipated graduation date out auticipated graduation date out autic	nanufacturers you represent and/or distribute se: ment? □ Yes □ No Do you manufac	for; if a student, please provide name an	No  Enter codes here: Products sold:
Do you buy AND sell equipment  Available Codes:  1 Batteries/Battery Chargers  2 Control/Annunciator Systems  9 Education  0 Emgines, Diesel or Gas  6 Engines, Joas Turbine  7 Engines Starters/Starting Aids	nanufacturers you represent and/or distribute  de:  ment? □ Yes □ No Do you manufact  O9 Generator Laminations  10 Generator Sets  11 Generator Sets  11 Generator Sets  13 Heat Recovery Systems  14 Instruments and controls, including meters, gauges, relays, contactors, or switches  15 Load Banks	ture packaged equipment?	No  Enter codes here:
D. Products/Services istributor, please indicate for rour anticipated graduation date our anticipated graduation of systems our anticipated graduation of systems our anticipated graduation of systems our anticipated graduation date our anticipated graduat	ment?  Yes  No Do you manufact  Our Generator Laminations  Our Generator Sets  The Generator Sets  Heat Recovery Systems  Heat Recovery Systems  Which is the set of	ture packaged equipment?	No  Enter codes here: Products sold:  Products rented:
D. Products/Services istributor, please indicate for rour anticipated graduation data of the pour anticipated graduation of the pour anticipa	ment?  Yes  No Do you manufact  O9Generator Laminations  10Generator Sets  11Governors  13Heat Recovery Systems  14Instruments and controls, including meters, gauges, relays, contactors, or switches  15Load Banks  16Motor Generator Sets  17Radiator/Heat Exchangers	ture packaged equipment?  Yes    19 Silencers/Exhaust Systems/Noise Abatement 20 Solenoids 21 Swtichgear and Transfer Switches (Automatic or Manual), Bypass Isolation Switches, and/or Switchgear Panels 22 Trailers, Generator Set 23 Transformers 24 Uninterruptible Power Supplies 25 Vibration Isolators 26 Voltage Regulators 27 Wiring Devices or Receptacles filling out this application. It is not manocentric page 19 Student Panels 25 Wiring Devices or Receptacles	No  Enter codes here: Products sold:  Products rented:  Products serviced:
D. Products/Services istributor, please indicate for rour anticipated graduation data of the pour anticipated graduation of the pour anticipa	ment?  Yes No Do you manufact  O9Generator Laminations 10Generator Sets 11Generator Sets 11Generator Sets 12Governors 13Heat Recovery Systems 14Instruments and controls, including meters, gauges, relays, contactors, or switches 15Load Banks 16Motor Generator Sets 11Radiator/Heat Exchangers 18Relays, Protective or Synchronizing	ture packaged equipment?	No  Enter codes here: Products sold: Products rented: Products serviced:  alatory that you have a sponsor for the quest that individual's name and co

36 www.EGSA.org Powerline • May/June 2008

\_Date \_

Signature

# 25 Years of On-Site Power Education

# POWER GENERATION Schools

#### Presenting Our New Two-Tiered School!

#### **Basic On-Site Power Schools**

Phoenix, AZ Feb. 12-14, 2008

Milwaukee, WI June 24-26, 2008

#### Orlando, FL

Dec. 3-5, 2008\*

\*To be held concurrently
with POWER-GEN International

#### Advanced On-Site Power Schools

New Brunswick, NJ April 28-May 1, 2008

> Austin, TX Oct. 20-23, 2008

For several years, the EGSA Education Committee and School Instructors have been planning and developing the most significant and major curriculum change in the 25-year history of the school: two school levels. The new curriculum is designed to better meet the needs and diverse backgrounds of those who attend our schools.

#### **Basic School**

The Basic School is a general, but still technical, overview of On-Site Power Generation equipment. The Basic School is designed for those who are working in nontechnical positions (such as Sales or Marketing, Administrative, or Company Management positions) and for those with less than three years experience working in the industry.

Each registrant will receive handout materials and instruction, a copy of EGSA's On-Site Power Generation: A Reference Book, and lunch on each of the three days.

#### **Advanced School**

In comparison to the Basic School, the Advanced School will offer more highly technical and in-depth coverage of the equipment. The Advanced School is designed for those who have attended the EGSA Basic On-Site Power Generation School; those who are employed in Engineering, Project Management, or Service positions; and for those with over three years working in the industry.

Each registrant will receive handout materials and instruction, a copy of EGSA's *On-Site Power Generation: A Reference Book*, and lunch on each of the four days.



#### **Electrical Generating Systems Association**

The Voice of the Global On-Site Power Industry for over 40 years 1650 S. Dixie Highway, Suite 500, Boca Raton, FL 33432 561/750-5575 Fax 561/395-8557 e-mail@egsa.org
Visit us online at www.egsa.org

#### Stay on Top of Your Game with **EGSA's Electrical Generator Systems Technician Certification Program**

Think things move pretty fast in today's business world? Think how fast they'll be moving one, five or even 10 years down the road. That's why you need every advantage to stay on top.

It's no secret that technology is becoming more complex—not less—and that makes today's On-Site Power Generation System a lot more expensive. End-users—your customers—don't want just anybody with a basic knowledge of mechanics to install and maintain their equipment. They want to be confident that all work has been performed by qualified personnel. Suppliers want assurance that skilled technicians are performing maintenance and repairs to guard against unnecessary returns or warranty repairs.



In the past, your word was the only assurance that your technicians are skilled and knowledgeable. But now, through EGSA's Electrical Generator Systems Technician Certification Program, there is a way that you can back up those words with objective evidence of your technicians' proficiency.



Certification helps ensure that your technicians have the critical knowledge and skills to succeed in their jobs.



EGSA offers you a big advantage: For the first time in our industry, we have an objective and accurate way to determine generator technician proficiency. That means that the same standards will be used to measure the skills and knowledge of technicians from Maine to Manitoba and Mexico. Yes, Manitoba and Mexico! EGSA has determined that there is no reason why the test could not be fairly applied to any NAFTA technician.

#### What are the Benefits?

For the Employer, certification helps ensure that your technicians have the critical knowledge and skills to succeed in their jobs. And everyone will be comfortable knowing that your certified techicians' expertise has been confirmed by the industry organization through a program that was developed by a university. Encouraging and helping your technicians become certified signifies your commitment to the highest of standards. Plus, it lends an added level of credibility to your firm and can sharpen your competitive edge. Employing certified techs will promote customer satisfaction and you won't have to be shy about offering assurance that your techs are qualified. Certification can also help you select potential new hires, analyze job performance, evaluate employees and motivate technicians to enhance their skills and knowledge.

Think about the message that certification sends to those with whom you do business. Why would anyone want a technician who isn't certified performing critical maintenance or repair tasks? Employing certified technicians gives you an added tool with which to market your business.

As our members have said, "We've seen too many backyard mechanics damage expensive equipment. This program will provide credibility for my company and will help build pride and a commitment from technicians to be the best."

#### For the Technician

Certificate holders benefit too. Certification shows employers, clients, and associates that you are committed as a professional. It provides recognition of your knowledge and skill, shows your commitment to your profession and can help with job advancement. Certification is a mark of excellence that you carry with you everywhere you go.

Acquiring certification indicates that you have the knowledge and proficiency required to perform as an Electrical Generating Systems Technician professional. Becoming certified can increase your salary, enhance your skills, and make your job more satisfying.



#### The Certification Test

EGSA collaborated with Ferris State University to develop the certification test and program. Through a scientific process, our panel of technical experts identified 12 duty areas (such as "Basic Electricity") and 61 tasks (such as "demonstrate knowledge of AC electrical theory") within the duty areas. The duty areas and tasks were ranked and rated in terms of their relative importance, the frequency with which a task is performed, and skill level (i.e. Senior/Expert; Intermediate; and Entry Level.) All this data was combined to develop the certification test that was then statistically validated through a pilot test taken by generator technicians from across the United States.

#### Who can take the Test?

There are no pre-qualifications for taking the EGSA Certification test. We recommend three or four years of field experience before taking the test. Technicians who have had formal education in On-Site Power Generation (a degree or certificate from a technical school or community college) may need less field experience. Those who pass the test will have a comprehensive knowledge of basic electricity, the functions of a gen-set's mechanical and electrical components, the interactions and relationships among components and an understanding of various elements of the installation, service, maintenance, and repair of gensets and On-Site Power Generation Systems.

#### **CERTIFICATION TESTING COVERS:**

- Automatic Transfer Switches
- Communication & Documentation
- Engine Generator Instrumentation & Controls
- Multiple Generator Switchgear & Controls
- Troubleshooting System Problems
- Auxiliary Support Systems

- Basic Electricity
- Prime Movers
- Governors
- Voltage Regulators
- Generators/Alternators

#### Use the Study Guide to Prepare!

Use of the program's Study Guide is an excellent way to help techs prepare for the test and should clearly indicate if they are ready to take (and pass) the certification exam. In addition to useful formula pages, the guide contains almost 200 multiple choice practice questions that cover all parts of the certification test. In addition to identifying the correct answer, the guide also indicates in most cases why a particular choice is correct

and why the others are incorrect. The Guide also identifies resource material where techs can get additional or more in-depth information about a given topic.

Need more information? Visit www. egsa.org to find extensive and detailed information about the certification program. Or contact EGSA Director of Education George Rowley via e-mail at g.rowley@egsa.org.



#### DISCLAIMER OF LIABILITY

Certified status is an indication that an individual has completed a combination of defined education, experience or examination requirements. However, Certification is not a guarantee or assurance of the competence or ability of any particular individual. Further, given the rapid changes in the field, the Electrical Generating Systems Association cannot warrant that the Examination and other Certification materials will at all times reflect the most current state of the art.

The Electrical Generating Systems Association disclaims liability for any personal injury, property or other damages of any nature whatsoever, whether special, indirect, consequential or compensatory, directly or indirectly resulting from the Certification Program or the acts or omissions of any person who has been Certified by the Electrical Generating Systems Association. In conducting the Certification Program, including issuing Certifications, the Electrical Generating

Systems Association is not undertaking to render professional or other services for or on behalf of any person or entity, nor is the Electrical Generating Systems Association undertaking to perform any duty owed by any person or entity to someone else. Anyone using the services of a person who has been Certified should rely on his or her own independent judgment or, as appropriate, seek the advice of a competent professional in determining the exercise of reasonable care in any given circumstances.



#### **Generator Technicians**

Live in the great Pacific Northwest and enjoy the outdoors while advancing your career! Pacific Power Products has openings in Washington, Oregon, Alaska and Hawaii for experienced generator and/or diesel engine technicians for shop and field service work. We are distributors for top tier engine and generator manufacturers. Minimum three years experience required with diesel engines and/or generator sets. We have highly attractive compensation and benefit program with aggressive training programs for the right individuals. Must have a clean driving record. PPPC is a drug-free workplace and an EOE employer. Send your resume to bmossey@pac-power.com. No phone calls please.

EGSA Job Bank Guidelines—EGSA will advertise (free of charge) EGSA Member company job openings in the Job Bank.

Free use of the Job Bank is strictly limited to companies advertising for positions available within their own firms. Companies who are not members of EGSA and third-party employment service firms may utilize the Job Bank for a \$300 fee.

Blind box ads using the EGSA Job Bank address are available upon request; company logos may be included for an additional fee. Please send your classified ad (limited to about 50 words) to: EGSA Job Bank, 1650 S. Dixie Hwy, Suite 500, Boca Raton, FL 33432. Or, send it via e-mail it to: J.Kellough@EGSA.org

#### Generator Set Sales/Service

Experienced sales/service engineer needed by southern California company to sell engine generator sets.

Please respond to *J.Kellough@EGSA.org*(Reference PLND06]B-1).

#### EMERGENCY POWER SYSTEM SPECIALISTS

#### Generator Technician—Experienced

Emergency Systems Service Company in Quakertown, PA, a leading provider of emergency generator sets, has an immediate opening for a technician with a minimum of three years diesel engine/generator set background/experience. Responsibilities will involve troubleshooting, repair and the planned maintenance services of generator sets and peripheral equipment. A neat appearance, clean driving record and good people skills are required. We offer a highly attractive compensation with an outstanding benefits package. A company vehicle and additional training provided. If you are interested in becoming part of our team, please call (215) 536-4973, ext. 25.

#### Generator Technician-Apprentice

Emergency Systems Service Company in Quakertown, PA, aleading provider of emergency generator sets, has an immediate opening for a person with a strong mechanical/electrical background interested in a career in the power generation service field. Responsibilities will involve minor troubleshooting, repair and the planned maintenance services of generator sets and peripheral equipment. A neat appearance, clean driving record and good people skills are required. An outstanding benefits package, company vehicle and additional training provided. If you are interested in becoming part of our team, please call (215) 536-4973, ext. 25.

#### National Sales Manager

National Sales Manager for Gillette Generators located in Elkhart, Indiana. Must have technical knowledge of all aspects of engine-driven standby equipment up to 250kW, transfer switch, natural gas and diesel engine fundamentals, electrical theory applications expertise—all are essential. Candidate to hold B.S. degree and possess a minimum of 10 years of industry direct experience. Responsibilities include growing dealer base, expanding relationships with existing customers and managing the in-house sales team. Must be willing to relocate and be able to travel 2 weeks a month. Contact Charlie Habic at crhabic@gillettegenerators.com

#### Sales Engineer

Ransome Cat, Caterpillar Dealer for PA, NJ and DE is searching for an experienced Sales Engineer for their Power Generation Sales Division. This position will influence end users, engineers and contractors to select Caterpillar as their source for power generation products and services. Responsibilities to include: Identifying new bids for future projects; Assisting with system design, application assistance, budget and project price quotations; Assist with submittals, track projects and provide support to Engineers and customers regarding projects. Must have five years engine sales/power generation application experience and a 4 year college degree is preferred. If you are interested in becoming a part of our team, please e-mail resume to HR@ransome.com. Fax: 215-245-2914 www.ransome.com\_AA/FFO

#### **Generator Service Technician**

Emergency Power Systems, Inc. in Tulsa, OK has an immediate opening for a technician with advanced knowledge of standby generator systems, including automatic switchgear, diesel and gaseousfueled engines and all associated components and subsystems. EPS has had a strong regional presence since 1991 in sales, service, rental, custom designs and turn-key installations of standby power systems. Pay commensurate with skills and experience. Send resume via email to rhaynes@epstulsa.com or fax to Ron Haynes at 918-446-2411.

#### **Generator/Sales Position**

Baltimore/Washington to call on contractors and engineers to represent local MTU distributor, located in the Middle River, MD area. Generator experience preferred. Excellent salary and benefits for the right person. EOE. Fax resume to 410-687-4743 or email to pfindeisen@johnsontowers.com

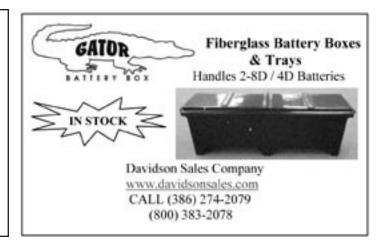
#### Sales—Parts & Service

Baltimore, MD Distributor is seeking sales professionals who are aggressive, well organized, self starters with parts and service sales experience. Must be able to perform written duties and have computer skills. Base and commission, auto allowance, health insurance. EOE. Email to pfindeisen@johnsontowers. com or fax resume to 410-687-4743.



- Specialists in providing contract project management
- · Decades of experience in the onsite power industry
- Equipment installation & removal supervision
- · Surplus equipment appraisal and disposal

www.powerproductsusa.com 901/854-6040



#### New EGSA Members

#### A.T.I....(DD) Lancaster. OH

(740) 687-0868 Fax: (740) 653-6654 Contact: William Lehman, Owner Business: We are a full service generator and RV service center. We sell and service Onan, Kohler, Generac, and Robin Subaru generators. We install generators in RV's, 5th wheels, and horse trailers. We have a fairly large parts inventory that helps us also sell parts over the counter to customers. We have been in business for 28 years.

#### CH Bull Co. . . . . . (MR)

South San Francisco, CA (650) 837-8425 Fax: (650) 583-4007 Contact: Mike Cunningham, Manager, Engineered Products

Business: Young Touchstone radiators, oil coolers, heat exchangers-sales and parts for North California. Plate heat exchangers. Exhaust heat recovery silencers, fuel gas coolers, intake filter silencers, filters, strainers.

#### Cominter Corp. . . . . . . . . . . . . . . (DD) Miami, FL

(305) 273-3647 Fax: (305) 279-4852 Contact: Pablo A. Sanchez, President Business: Distributors for: Dale Electric (Ottomotores Branch Mexico), Armstrong Power, Kubota, Cummins, Perkins Gensets. Brokers for all types of electrical power generation equipment, all sizes and types of fuels for all countries that come to us, mostly in this hemisphere.

#### DellaPenna, Todd. . . . . . . . . (AF) Batavia, NY

(585) 944-2675

Contact: Todd C. DellaPenna, Student Business: I am currently enrolled in Ohio Technical College. I am enrolled in the Diesel Equipment Technology with Power Generator System, diploma program. The enrollment period is 84 weeks or 2100 clock hours. My completion date is April 10, 2008. I am currently an honor roll student.

#### Eller, Glen .....(AF)

White House, TN (615) 654-3904

Contact: Glen Eller, Student

Business: I am studying Electrical Engineering at Vanderbilt University in Nashville, TN. I am scheduled to graduate in 2010 with a BE in Electrical Engineering. EGSA has awarded me a scholarship over the past two years. I plan to become a member of EGSA because I hope to work in the power generation industry after graduation. I formerly worked as a field service tech for two different generator dealerships since October 1999.

#### Energy Cost Control Corp. . . . . (DD)

Buffalo, NY

(716) 896-5000 Fax: (716) 895-2747

Contact: Paul Gilden, CEO

Business: Supply and install generators.

#### Gabel Equipment Corporation . (CI)

Port Chester, NY

(914) 937-8100 Fax: (914) 937-8338 Contact: Christopher J. Gabel, Vice President

Business: Gabel Equipment Corporation, incorporated in 1970, sells and installs (offering turn-key jobs, as required) both Caterpillar/Olympian and Kohler emergency generators, as well as accessories, including Cutler-Hammer and ASCO transfer switches. We repair all brands and offer annual inspection contracts to residential, commercial, health facilities and municipalities.

#### Generator Solutions Inc. . . . . . (MF)

Oakdale, MN

(651) 770-9405 Fax: (651) 770-6924

Contact: Gary Bance, Owner

Business: Generator Solutions manufactures GenTracker monitoring equipment for standby generators of any size or brand. We provide remote generator monitoring services via the Internet, cellular and telecommunication lines to track generator usage and exercising.

#### Hartang, Patrick....(AF) Appleton, WI

(920) 735-5600

Contact: Patrick R. Hartang, Student Business: I am a student currently enrolled in an Electric Power Generation program with Fox Valley Technical College.

#### L-3 Communications - Global . . (CI) Security & Engineering Solutions (GS & ES)

Albuquerque, NM (505) 344-4436 Fax: (505) 344-7022 Contact: Mark Eifert, Project Manager Business: L-3 Communications - GS & ES is a division of L-3 Communications that provides integration, support & engineering solutions for communications and network systems to include power generation and distribution required to enable fixed

#### Louisiana Machinery Power Systems.....(DD)

and mobile communications systems.

Gonzales, LA (800) 685-4228

Contact: Mike Jennings, Electric Power

Business Unit Mgr

Business: Caterpillar dealer for Louisiana.

#### McBride Inc.....(CI)

Round Rock, TX (512) 418-9977

Contact: Michael White, Critical Systems

Manage

Business: Electrical contractor with service contracts with Fortune 500 companies.

Commercial and industrial installations.

#### Pan American Power . . . . . . . . (DD)

Covington, LA

(985) 893-1271 Fax: (985) 893-4640 Contact: Eddie Boudreau, President Business: Generac, Kohler, Briggs & Stratton - industrial & home standby systems. Used & rebuilt generator sets & engines - marine & industrial petroleum. Specializing in Caterpillar equipment.

#### PD Systems . . . . . . . . . . . . . . . . (AC)

Alexandria, VA

(703) 778-3515 Fax: (703) 778-4781 Contact: Mazen Badr, VP Engineering Business: PD Systems offers a wide breadth of engineering services including new product development, systems integration, systems engineering, production, verification and validation, technology insertion, 3D modeling, 2D CAD documentation and dynamic simulation.

#### New EGSA Members

#### Premium Power Systems . . . . . (DD)

Concord, NC

(704) 786-5318 Fax: (704) 782-5507 Contact: Lori Clay, Director of Operations

Business: Generator sales and service organization. We represent service lines of generator sets for industrial, commercial and residential use.

#### Scheibel Works LLC..... (CI)

Sarasota, FL

(941) 306-9863

Contact: Craig Scheibel, Managing Member

Business: We are a licensed building contractor in the State of Florida and plan to offer sales, service and installation of standby generator systems. Currently we offer construction and project management services. We have managed several projects with standby generators and plan to shift ourselves to them for residential & commercial application.

#### Separ of the Americas, LLC (AE Full)

Chagrin Falls, OH

(440) 708-8210 Fax: (440) 543-2685 Contact: Terrance Holder, Sales

Business: Filtration systems, pumps and fuel polishing systems for generator sets.

#### TAMCOS-USA, LLC . . . . . (CI) Hopkinton, MA

(207) 646-6200 Fax: (207) 646-6203

Contact: Leon L. LeBlanc

Business: Cogen systems integrator, buy and sell used generation equipment, maintain cogen and landfill gas generators.

#### Vermette Consulting, Inc. . . . . (AC) Barrigada, GU

(671) 632-3031 Fax: (671) 632-5186 Contact: Thomas R. Vermette, President Business: Design/installation/maintenance/repair of diesel engine generator sets. Industrial- commercial- agricultural-residential. Prime Power- peak shaving-co-generation - standby protection 90kW to 4MW.

#### WFMZ - TV69.....(AD) dba Maranatha Broadcasting Co., Inc.

Allentown, PA

(610) 972-0993 Fax: (610) 791-2288 Contact: Dennis L. Nice, Engineer

Business: We are a broadcasting company with a TV station and a number of radio stations. We have several backup generators and plan to install a new 800 kW unit. We also rent portable units from time to time.

## he Generator Monitoring System you've been waiting for.

#### Not just monitoring, but a service management tool!

- ► Low cost
- ► Easy to install
- ► No programming required
- ► Universal for all generator brands and sizes
- ▶ Notifications by e-mail and cellular text messaging
- ▶ 3 ways to communicate (cellular, phone, ethernet)
- Automatic monthly e-mail to customer (generator activity documentation)
- ▶ Remote starts
- ▶ Internet-based





# GENTRACKER

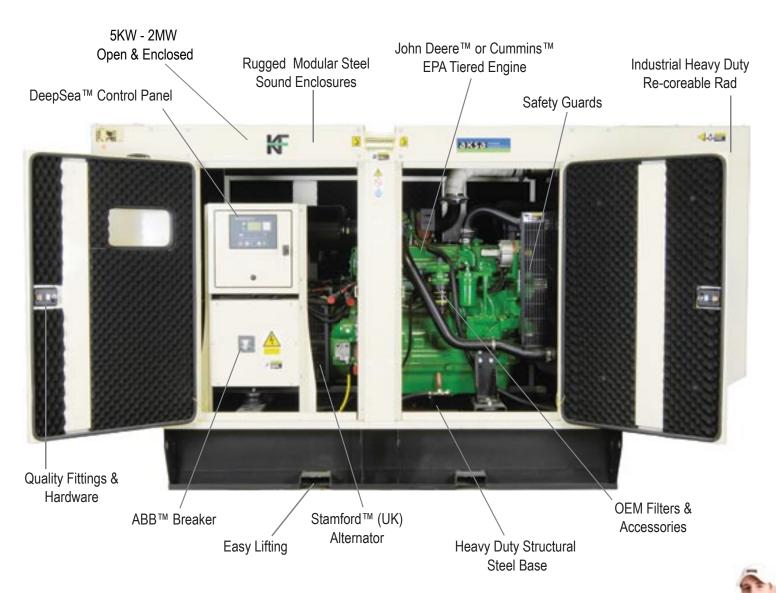
Generator Solutions, Inc. 533 Hayward Ave. N. Oakdale, MN 55128 651-770-9405 www.dealers.gentracker.com

#### **Taking Generator Service to the Next Level**

### skep•tic /'sceptik'/ {Brit. scep•tic} n.1 person inclined to doubt accepted opinions

At KF Power Products we know you are skeptical about genset manufacturers claiming to be quality manufacturers. We also know why!

AKSA sets have the power to convert skeptics into believers. Our quality is even deeper than the heavy-grade steel of our enclosures or the quality brand names of our components. AKSA quality is about building great products and standing behind them.



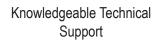
CONTACT US TODAY FOR MORE INFORMATION

KF Power Products

Toll Free: 1-888-564-9601

Email: sales@kfpowerproducts.com

www.kfpowerproducts.com Dealer Applications Welcome









#### **Choose Wisely**

Selecting a Power Switching and Control Partner Is a 20-Year Commitment

#### Make the right decision.

Do you want a low-cost partner? Or one who's a global leader in power switching and control products, solutions and services?

Consider a partner who offers:

- Advanced and innovative technology.
- The most robust products with legendary reliability.
- Sophisticated connectivity.
- Seasoned, order-to-commissioning project management expertise.
- The largest and most responsive service and technical support network.

- The largest staff of dedicated power transfer and control engineers.
- Commitment to support customer expectations.
- And more than a century of experience.

When your reputation is on the line. When the stakes are high. And when there's no room for error, select ASCO to be sure.

ASCO Keeps Your Power On®. Call 800-800-ASCO (2726) or visit ascopower.com.





